Y4.In8/4:G21/23

95th Congress
2d Session

COMMITTEE PRINT

Committee
Print No 95-59

GASOLINE DECONTROL: DEPARTMENT OF ENERGY JUSTIFICATION

REPORT

together with

MINORITY VIEWS

BY THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

SECOND SESSION

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LETTER OF TRANSMITTAL

House of Representatives,
Subcommittee on Oversight
and Investigations of the
Committee on Interstate and Foreign Commerce,
Washington, D.C., August 10, 1978.

Hon. Harley O. Staggers,
Chairman, Committee on Interstate and Foreign Commerce,
Washington, D.C.

Dear Mr. Chairman: The attached report of the Subcommittee on Oversight and Investigations reviews the Department of Energy's proposal to decontrol the price and allocation of motor gasoline. The report finds that significant discrepancies exist in DOE's data and methodology, and concludes that DOE's finding that decontrol will not significantly affect the quality of the environment is unsupported by their published analyses.

The subcommittee has also uncovered internal DOE studies that forecast a potential gasoline shortage of up to 400,000 barrels per day in 1980. The failure of DOE to discuss this potentially grave problem in their published assessments of the impact of decontrol raises serious questions as to the credibility of the Department.

In addition, this report identifies serious air pollution problems that require the close attention of the Environmental Protection Agency, the Department of Energy and the Congress.

Sincerely,

John E. Moss,
Chairman, Subcommittee on
Oversight and Investigations.

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GASOLINE DECONTROL: DEPARTMENT OF ENERGY JUSTIFICATION

SUMMARY

This is not a report on the merits of motor gasoline decontrol *per se*. It is a report rather on the arguments advanced by the Department of Energy (DOE) in recommending the termination of motor gasoline decontrol as presented in its report on gasoline decontrol released June 28, 1978, and its Environmental Assessment of June 28, which concluded that "the proposed exemption of motor gasoline from controls does not significantly affect the quality of the human environment."

After 2 months of subcommittee investigation and 2 days of public hearings, the subcommittee has concluded that the DOE's case for gasoline decontrol is unlearned, disingenuous, and unpersuasive.

The inability of the DOE to present a logical and coherent case for gasoline decontrol is attributable to a number of factors, including the Department's apparent intellectual inability to justify the administration's longstanding commitment to gasoline decontrol, neglect on the part of David Bardin, Administrator, Economic Regulatory Administration, charged with preparing the Environmental Assessment and Supplement in reviewing the work of his subordinates, and an embarrassing failure of Acting Assistant Secretary for the Environment, Dr. James L. Liverman, to fully and effectively discharge the duties of his office in reviewing the Environmental Assessment.

The primary issue raised in this report is not whether we should deregulate gasoline prices, an issue on which members of the subcommittee may differ, but on the competence and the credibility of the DOE in addressing the issues surrounding gasoline decontrol.

The subcommittee's specific conclusions are as follows:

1. The DOE had no basis for stating in its Environmental Assessment and Supplement that all gasoline is selling at retail for less than the price permitted by regulation and that retail price controls are therefore superfluous.
2. Contrary to the DOE's contention, price regulations are constraining gasoline prices at the refinery level.
3. DOE had no basis for concluding that gasoline decontrol will not have an adverse environmental impact; in fact, the evidence strongly suggests the contrary.
4. DOE was seriously at fault in withholding information that indicated a potential major gasoline shortage in 1980.
5. Gasoline price controls have not dampened investment in refining to the extent maintained by Deputy Secretary O'Leary in his testimony before the subcommittee.
6. No final conclusion can be reached as to the wisdom of gasoline decontrol until reliable and unambiguous data regarding supply, demand and price trends are developed by the DOE.

RECOMMENDATIONS

Based on the above conclusions, specific Subcommittee recommendations are as follows:

1. That DOE withdraw its June 28, 1978, Environmental Assessment on motor gasoline decontrol.
2. That DOE join with the Environmental Protection Agency in preparing for release to the Congress a report on 1980 gasoline supplies as a prelude to DOE's further consideration of motor gasoline decontrol.
3. That DOE establish and monitor the extent to which retail gasoline price regulations are constraining gasoline prices on a national and regional basis to better determine the likely economic and environmental impact of any gasoline decontrol proposal.
4. That DOE establish and monitor the extent to which gasoline price regulations are constraining the price of gasoline at the refining level to enable it to better determine the likely impact of gasoline decontrol on the wholesale price of gasoline.
5. That DOE more fully and accurately examine the option of deregulating gasoline prices while controlling the price differential between leaded and unleaded gasoline.

CHAPTER I—BACKGROUND

Under the 1973 Emergency Petroleum Allocation Act and the 1975 Energy Policy and Conservation Act, the Department of Energy (DOE) can submit an amendment to the Congress to remove a petroleum product from mandatory allocation and price controls to go into effect as of a certain date, provided that neither the House nor the Senate disapproves within 15 legislative days.

In tendering a decontrol proposal to Congress, the DOE must demonstrate, among other things, that the product in question "is no longer in short supply," that "competition and market forces are adequate to protect consumers," that decontrol "will not result in inequitable prices for any class of users," and that decontrol will not impair the public health, safety or welfare.

During 1976, residual fuel oil, middle distillates and a number of other petroleum products were decontrolled. At present propane, motor gasoline, and aviation gasoline are the principal petroleum products (as opposed to crude oil) subject to price regulation.[1]

A proposal to exempt motor gasoline from price and allocation controls as of March 1, 1977, was submitted to Congress by the Federal Energy Administration on January 19, 1977. Prior to the end of the 15-day congressional review period, President Carter determined that motor gasoline decontrol required further consideration and FEA withdrew its gasoline decontrol proposal.

The administration's April 1977 proposed National Energy Plan, which recommended the elimination of gasoline controls, argued that:

> Gasoline allocation and price controls are another major area of unsettled oil policy. Gasoline prices have never reached their allowable ceilings, and marketers have contended for some time that deregulation of gasoline would increase competition by allowing them to shop among suppliers. There is little question that gasoline and price controls have distorted what at times has been a competitive market.
>
> . . . [T]he Administration currently hopes to eliminate gasoline price controls and allocation regulations at the end of the peak driving season this coming fall. Gasoline prices and market competition will be closely monitored between now and then to assure this policy is appropriate. If gasoline were to be decontrolled, controls could be reimposed if prices rose above a predetermined level. This standby authority would permit the elimination of controls while protecting consumers.[2]

In September 1977, the FEA issued its "Findings and Views Concerning the Exemption of Motor Gasoline from Mandatory Petroleum

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[1] DOE on June 22, 1978, submitted for review by the Federal Energy Regulatory Commission proposals to exempt aviation gasoline and kerojet fuel from mandatory controls. See 43 FR 6959–6962, Feb. 17, 1978, and Secretary Schlesinger's Press Conference of June 22, 1978.

[2] Executive Office of the President, Energy Policy and Planning, "The National Energy Plan," p. 59 (April 29, 1977).

Allocation and Price Regulations" (hereinafter referred to as the September Report). The report included various findings for use in tendering a gasoline decontrol proposal to Congress. The submission of this amendment was delayed, however, to afford the Federal Energy Regulatory Commission (FERC), which was activated along with the rest of DOE on October 1, 1977, an opportunity to consider gasoline decontrol pursuant to sections 402(C) and 404 of the Department of Energy Organization Act, which require FERC to "consider" and make recommendations with regard to any proposal to exempt refined petroleum products from price or allocations controls.

On March 29, 1978, FERC transmitted to the Secretary of Energy its final concurrence on the proposed decontrol of motor gasoline. Because of the length of time between the issuance of the September Report and the termination of the FERC review, the DOE on June 28, 1978, released a Supplement to the September Report that was said to include "the most recent data available to DOE." [3]

In releasing the Supplement, the DOE offered for public comment an Environmental Assessment that held that an Environmental Impact Statement was not required since "the proposed exemption of motor gasoline from controls does not significantly affect the quality of the human environment." [4] As part of the public comment process, the DOE held a public hearing on July 14 (rescheduled from July 12) to address the environmental effects of gasoline decontrol.

On July 14, the Subcommittee on Oversight and Investigations at its own public hearing reviewed the adequacy of the DOE's Environmental Assessment. Witnesses who appeared before the subcommittee included:

Steve Burton, General Counsel, California Air Resources Board.

Clarence Ditlow, Director, Center for Auto Safety.

Benjamin R. Jackson, Acting Deputy Assistant, Administrator for Mobile Source and Noise Enforcement, Environmental Protection Agency.

Dr. James L. Liverman, Acting Assistant Secretary for Environment, Department of Energy.

On July 17, the subcommittee broadened its inquiry to include the overall policy considerations attending to gasoline decontrol and received public testimony from John F. O'Leary, Deputy Secretary, and David Bardin, Administrator Economic Regulatory Administration, DOE.

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[3] "Supplement to the September 1977 Report: Findings and Views Concerning the Exemption of Motor Gasoline from Mandatory Petroleum Allocation and Price Regulations" (hereinafter referred to as Supplement), p. S-3.

[4] DOE, "Environmental Assessment of the Exemption of Motor Gasoline from Mandatory Petroleum Allocation and Price Regulations" (hereinafter referred to as Environmental Assessment), p. 1.

CHAPTER II—ENVIRONMENTAL ISSUES

Representatives of the Environmental Protection Agency (EPA), the California Air Resources Board, and the Center for Auto Safety, testified that gasoline decontrol would seriously damage the nation's air quality because it would further increase the price differential between unleaded and leaded gasoline, making it more attractive for motorists to switch to the relatively cheaper leaded gasolines.

The growing price differential between leaded and unleaded gasoline is already causing owners of 1975 and newer model year automobiles, equipped with emission control systems at a cost of $1 billion per year [5] designed to operate on unleaded gasoline, to switch to leaded gasoline.

The average price differential between unleaded and leaded regular gasoline increased from 3.3 cents per gallon in 1975 to 3.9 cents per gallon in 1977.[6] According to EPA, unleaded regular gasoline prices in April, 1978, averaged 4.1 cents per gallon higher than leaded regular gasoline at full service stations and 4.6 cents per gallon at self service stations.[7] In some instances differentials within a single station as high as 15 cents per gallon have been observed.[8] Notwithstanding, unleaded regular gasoline is estimated to cost only about two cents more per gallon than leaded regular gasoline to produce and to distribute.[9]

According to EPA, a car equipped with a catalytic converter is designed to reduce emissions almost 90 percent below that of an unequipped vehicle. "If 10 percent of the vehicles in the catalyst fleet are improperly fueled with leaded gasoline, the result can then be up to 90 percent increase in emissions from the fleet."[9] Since the average emissions reduction from the fleet is less than the 90 percent design target because of lack of proper maintenance, EPA estimates that an emissions increase of 30 to 70 percent from the catalyst equipped fleet would result if 10 percent of the cars are run on leaded gasoline.[10] According to the California Air Resources Board, if 10 percent of the motorists in California were to switch to leaded gasoline, the result would be "an increase in emissions of 37 tons per day of hydrocarbons, 450 tons per day of carbon monoxide, and 30 tons per day of oxides of nitrogen in Southern California in 1982."[11]

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[5] Statement of Benjamin R. Jackson, Acting Deputy Assistant Administrator for Mobile Source and Noise Enforcement, Environmental Protection Agency before the House Interstate and Foreign Commerce Committee, Subcommittee on Oversight and Investigations, "Hearing on Gasoline Decontrol: Department of Energy Justification," July 14, 1978, (hereinafter referred to as Jackson Statement), p. 3.

[6] Supplement, Table IV–24. pp. S–58–59.

[7] Jackson Statement, p. 1.

[8] Statement of Clarence Ditlow, Director, Center for Auto Safety, before the House Interstate and Foreign Commerce Committee, Subcommittee on Oversight and Investigations, "Hearing on Gasoline Decontrol: Department of Energy Justification," July 14, 1978 (hereinafter referred to as Ditlow Statement), p. 2.

[9] Jackson Statement, p. 2.

[10] *Ibid.*, pp. 3–4.

[11] Statement of Steve Burton, General Counsel, California Air Resources Board, before the House Interstate and Foreign Commerce Committee, Subcommittee on Oversight and Investigations, "Hearing on Gasoline Decontrol: Department of Energy Justification," July 14, 1978, (hereinafter referred to as Burton Statement), p. 8.

A number of studies have been conducted concerning fuel switching. The EPA has observed the fueling of 804 vehicles that require unleaded gasoline in 33 states. Of those, 84 were observed to be filled with leaded gasoline for an average fuel switching rate of 10.5 percent; 10.7 percent at full service stations, and 10.1 percent at self service stations.[12] The California Air Resources Board, in a survey of over 1,100 vehicles at 20 self service stations in the Los Angeles metropolitan area, found a switch rate of only 3.4 percent.[13] The lower observed percentage of fuel switching in the California Air Resources Board study, as compared to the EPA data, may reflect a greater sensitivity to the air pollution problem on the part of people in the Los Angeles area. The EPA nationwide survey found, for example, that none of the 21 vehicles observed in the Los Angeles area were fueled with leaded gasoline. Of 61 vehicles checked by the EPA in other areas of California, nine were fueled with leaded gasoline.[14]

A third study on fuel switching was conducted by the General Motors Corp.[15] It involved 1,208 GM cars designed to operate on unleaded gasoline. The study reported a fuel switching rate of only two percent, but the results may have been biased downward by the methodology employed. GM allowed stations to choose not to participate in the survey, which may have eliminated from consideration stations where fuel switching was more prevalent. The operator of a station that knowingly permits fuel switching is subject to a $10,000 fine.[16] Moreover, GM employees obtained the permission of the station operators to check for fuel switching by standing near the gasoline pumps. The presence of a close-in observer wearing a GM identification badge may well have persuaded a number of motorists to refrain from fuel switching for fear of voiding their warranty, or for other reasons. In both the EPA and California Air Resources Board studies, the observations were made from a distance without knowledge of the motorist or station operator. The GM study also reported that 16 motorists refused to be interviewed. The fuel usage of 14 of those motorists was observed, however, and the switch rate was over 7 percent.

There appear to be two major reasons why motorists switch to leaded gasoline, price and performance. Based on evidence received by the subcommittee to date, price is the more important of the two. The EPA survey showed a strong directional trend towards increased switching as the price differential increased.[17] Despite its possible downward bias, the GM study showed a similar tendency although the study did not have enough data to make a statistically valid statement to that effect.[18] In absolute numbers, the GM study is nonetheless revealing. Twenty-one of the 24 switchers observed by GM chose leaded regular while the other three chose leaded premium. Since leaded regular was over 4 cents per gallon cheaper than unleaded regular, according to March 1978 DOE figures, and leaded premium was about 2 cents per gallon more expensive than unleaded regular, price rather than performance is the likely explanation for the overwhelming majority of those switches.

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[12] Jackson Statement, pp. 2-3. Applying a standard statistical test, the EPA data yield a greater than 95 percent confidence factor that the switching rate is between 8.27 percent and 12.63 percent.

[13] Burton Statement, p. 4.

[14] EPA "Mobile Source Division Observation of Fuel Switching Cumulative," July 12, 1978, p. 2.

[15] General Motors Corp., "Fuel Usage Survey," July 5, 1978. See also "Summary of and Comments on General Motors Study of Fuel Switching," memorandum to Chairman John E. Moss from Subcommittee staff, July 11, 1978.

[16] Testimony of Benjamin R. Jackson, Hearing on Gasoline Decontrol: Department of Energy Justification, July 14, 1978 (hereinafter referred to as Hearing, July 14), Tr. pp. 83–85.

[17] Jackson testimony, Hearing, July 14, Tr. p. 24.

[18] GM "Fuel Usage Survey," p. 2 and pp. 5–6.

The GM data also revealed another important fact—a strong correlation between the age of the vehicle and the tendency of the motorist to switch to leaded fuel. The tendency of 1975 model year car operators to switch was over five times greater than either 1977 or 1978 model year car operators. Whether explained by warranty considerations, an increasing number of less affluent second owners or some other reason, the GM finding suggests that the switching rate will tend to increase over time.

Support for the view that performance is equal to price in motivating fuel switching is found in an Exxon study, which reported that 50 percent of the switchers bought leaded premium and 50 percent bought leaded regular.[19] Engine knock from unleaded gasoline, which has been increased by Detroit's practice of building engines requiring increasingly higher octane to run properly, is more than a minor problem.[20] Refiner efforts to increase the octane of unleaded regular, and to market increased volumes of unleaded premium, have probably not compensated for this "octane creep" by American automobile manufacturers.

But even if only one-half of the currently observed 10 percent switch rate is attributable to price, the percentage is likely to significantly increase if decontrol increases the current price differential between leaded and unleaded gasoline.

If the percentage of fuel switching were to increase, or even remain at the present 10 percent level as reported by EPA, the impact on the environment would become painfully real, particularly by 1982 when enhanced air quality standards mandated by the Clean Air Act Amendments of 1977 are to be achieved. According to EPA, if the level of fuel switching in Los Angeles reached 10 percent, the increased pollution would be equivalent to that produced by one-fourth of all stationary sources and one-tenth of all automobiles in the area.[21] To meet statutory air quality standards, extraordinary measures would be required. One of the witnesses before the Subcommittee accordingly warned that measures such as those proposed for New York City to reduce air pollution could be easily overcome by increased fuel switching. For example, the tolls proposed for New York City bridges would reduce vehicle fleet emissions by only 1 to 2 percent, a ban on cruising cabs would save 7 to 8 percent, and a $100 to $200 heavy duty truck retrofit requirement would save another 10 percent, but all of those steps would be rendered meaningless in face of a 30 to 70 percent increase in vehicle air pollutants that would result from a 10 percent switch rate.[22]

Given the observed relationship of the price differential between leaded and unleaded gasoline and fuel switching, careful consideration must be given to the likely impact of gasoline decontrol on fuel switching. If the price of unleaded gasoline increased more rapidly than the price of leaded gasoline under decontrol, an increase in the amount of fuel switching appears almost inevitable.

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[19] Letter of July 18, 1978, from R. A. Pierpont, Jr., Manager-Marketing Department, Exxon Company, U.S.A., to David J. Bardin, Administrator, DOE Economic Regulatory Administration.

[20] Coordinating Research Council, Inc., "1975 CRC Customer/Rater Knock Perception Study," July 1977 and CRC, "Octane Requirement Increase in 1974 Model Cars," March, 1976.

[21] Jackson testimony, Hearing, July 14, Tr. p. 25.

[22] Ditlow testimony, Hearing, July 14, Tr. p. 72.

The National Environmental Policy Act requires all departments of the Federal Government to prepare an Environmental Impact Statement relative to all "major Federal decisions significantly affecting the quality of the human environment." The act does not prohibit the implementation of policy that will adversely affect the environment. Its purpose rather is to force the agency in question to consider the environmental consequences of its actions. The act does, however, require the department to provide a "detailed statement" concerning "Any adverse environmental effects which cannot be avoided should the proposed be implemented" and "alternatives to the proposed action."

DOE regulations further provide for the preparation of an Environmental Assessment as a prelude to making a determination regarding the preparation of an Environmental Impact Statement. Should the Department conclude that an Environmental Impact Statement is not required, the resulting negative determination must be included in the Environmental Assessment as in the case of the Environmental Assessment for gasoline decontrol that was released by DOE on June 28, 1978.

Further environmental safeguards were included by Congress in the 1977 DOE Organization Act which established within DOE an Assistant Secretary for the Environment charged, among other things, with "advising the Secretary with respect to the conformance of the Department's activities to environmental protection laws and principles. . . ."

The specific duties of the Assistant Secretary for the Environment, as they pertain to the National Environmental Policy Act of 1969, are set forth in a September 29, 1977, DOE Interim Management Directive (IMD). It requires the Assistant Secretary for the Environment to

> Review, exercise quality control over, evaluate, and after consultation with the General Counsel, approve or disapprove for publication all EA's [Environmental Assessments], and draft and final EIS's [Environmental Impact Statements]. . . ." [23]

Pursuant to its oversight responsibilities, the Subcommittee reviewed the performance of Dr. James L. Liverman, Acting Assistant Secretary for the Environment, concerning his discharging of the responsibilities of his office prior to the June 28 release of the Environmental Assessment.

Following a review of Dr. Liverman's July 14 testimony before the subcommittee, the subcommittee has concluded that the Acting Assistant Secretary for the Environment did not adequately discharge his duties with respect to gasoline decontrol.

Dr. Liverman's testimony revealed him to be embarrassingly uninformed on matters relating to gasoline decontrol. In appearing before the Subcommittee, Dr. Liverman presented himself as the "environmental conscience" of DOE. Yet under questioning Dr. Liverman acknowledged as to how:

(1) He did not know who within DOE had prepared the written

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[23] DOE Interim Management Directive "Interim National Environment Policy Act Director," September 29, 1977, p. 5.

testimony which he submitted to the Subcommittee, testimony which he had seen for the first time only the night before.[24]

(2) He had not seen the EPA data on fuel switching that had been available for a month prior to the Subcommittee hearing, and that the staff assistant whom he principally relied upon had not bothered to obtain this key data from EPA.[25]

(3) The only documents which he had personally "scanned in detail" were the Environmental Assessment, the September Report, and the June Supplement, all of which had been reviewed "over a weekend."[26]

(4) His office has yet to perform a "total and detailed analysis" of the Environmental Assessment, despite his having signed off on the document prior to its release on June 28.[27]

(5) He was unclear whether the Department of Energy was still conducting a joint study with EPA on fuel switching, as stated in the Environmental Assessment.[28] (A subsequent subcommittee inquiry determined that the EPA is unaware of such a study.)[29]

(6) He had "no idea" what the permitted retail margin for unleaded gasoline was despite numerous statements in the Environmental Assessment that claimed that unleaded regular gasoline, on a nationwide average, was selling below the 10.3 cents per gallon permitted average national margin.[30]

(7) He was of the view that the DOE's best estimate was that the price differential between leaded and unleaded gasoline would increase by one cent per gallon, which helped persuade him that decontrol would not significantly increase the tendency of motorists to switch from unleaded to leaded gasoline.[31] DOE does not maintain, however, that the price differential between leaded and unleaded gasoline would increase by only 1 cent under decontrol. Its position, rather, is that the lifting of price controls would increase the *overall* price of gasoline by 1 cent.[32] Since unleaded gasoline constitutes one-third of the gasoline market, a 1-cent increase in the price of gasoline could yield a 3-cent per gallon increase in the price of leaded gasoline, as EPA Administrator Douglas M. Costle had previously informed DOE.[33]

Dr. Liverman's obvious lack of understanding regarding gasoline decontrol, and his admission that his office did not thoroughly review the Department's Environmental Assessment permitted the DOE's gasoline decontrol proposal to issue without the in-house environmental review contemplated by the DOE Organization Act. Had such a review been conducted, it is reasonable to assume that many of the deficiencies in the Department's Environmental Assessment, revealed during the course of the Subcommittee's investigation, would have been detected prior to its release.

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[24] Liverman testimony, Hearing, July 14, Tr. pp. 91–92.
[25] *Ibid.*, Tr. pp. 129–133, and 171.
[26] *Ibid.*, Tr. pp. 138 and 101.
[27] Ibid., Tr. p. 159.
[28] Ibid., Tr. p. 164.
[29] Letter of July 10. 1978, from Douglas M. Costle, Administrator, EPA, to David Bardin (hereinafter cited as Costle letter).
[30] Liverman testimony, Hearing, July 14, Tr. p. 180.
[31] Ibid., Tr. p. 183.
[32] Environmental Assessment, p. 13.
[33] Costle letter.

CHAPTER III—DOE'S CASE FOR DECONTROL

The DOE's gasoline decontrol Supplement and Environmental Assessment argue that the removal of price controls for motor gasoline will have a negligible consumer and environmental impact for the following reasons:

1. The current price differential between leaded and unleaded gasoline, and the resulting tendency of motorists to switch to unleaded gasoline, are not germane to decontrol because both fuels are selling below the permitted regulated price. Thus, the lifting of price controls will not significantly affect the price of either product nor the differential between them.[34]
2. Retail gasoline price controls are unnecessary since gasoline sells at retail for less than the maximum price permitted under current regulation.[35]
3. Price controls at the refinery level are redundant since the market has not allowed refiners to charge the maximum price permitted by regulation.[36]
4. Gasoline supplies will remain adequate through the balance of 1978 and throughout 1979.[37]
5. Continued gasoline price controls will discourage refiners from investing in new plants and equipment.[38]

The remainder of this chapter will review each of the above contentions in light of the Subcommittee's findings.

I. Gasoline decontrol will not cause increased fuel switching since it will not significantly affect the price of leaded or unleaded gasoline, both of which are selling at retail below the maximum price allowed by DOE regulations

In its Environmental Assessment, the DOE acknowledged that decontrol could increase the price differential between leaded and unleaded gasoline if under controls "unleaded gasoline were at ceiling prices and leaded gasoline sold below ceiling prices." But since, according to DOE, both fuels under controls are selling below ceiling, the lifting of controls will not increase the price of unleaded gasoline relative to leaded gasoline.

A retail dealer, according to DOE, is permitted his May 15, 1973, margin for each category of gasoline (i.e., full serve premium, leaded, etc.) plus an additional 3 cents per gallon to cover increased non product costs. A dealer margin constitutes the difference between a dealer's gasoline purchase price and selling price, including both overhead and profit. For example, a dealer with a May 15, 1973, margin of 7 cents per gallon for full service leaded regular gasoline and an 8 cent per gallon margin for full service premium leaded gasoline is currently entitled to a 10 cent per gallon margin for full service leaded regular and an 11 cents per gallon margin for full serve leaded premium gasoline. Permitted dealer margins vary, therefore, among dealers depending on each dealer's actual margin on May 15, 1973.

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[34] Environmental Assessment, pp. 22–23.
[35] Ibid., p. 14.
[36] Ibid.
[37] Ibid., p. 19.
[38] Ibid., p. 21.

According to the Environmental Assessment, the average nationwide allowable margin for unleaded regular gasoline, based on data published in Platt's 1973 Oilgram is 10.3 cents per gallon.[39] Since according to the Environmental Assessment:

> The average actual margin in 1977 for full serve unleaded gasoline at the retail level is estimated to have been 9.8 cents per gallon . . . and for self serve is estimated to be about 5.8 cents per gallon. . . . [T]he best available data on average dealer margins show unleaded gasoline to be selling from 0.5 cents to 4.5 cents below the maximums allowed by the regulations . . .[40]
>
> The average dealer margin of 9.8 cents for full serve unleaded gasoline has decreased from 10.3 cents per gallon in the latter half of 1975 and 10.0 cents in 1976. . . . Thus, the data show that the differential between actual full serve unleaded gasoline margins and allowable margins is increasing.[41]

However, DOE's contention that full serve unleaded gasoline prices have declined relative to the permitted margin is not accurate.

Monthly data for 1977 and 1978 show that full serve unleaded gasoline prices are moving closer to the permitted 10.3 cents per gallon margin. As of August 1977 when Lundberg Survey, Inc. began to report unleaded gasoline prices to DOE, average full serve unleaded gasoline margins in cents per gallon are as follows:

August	9. 6
September	9. 6
October	9. 8
November	9. 8
December	10. 1
Yearly average	9. 8

In 1978, as based on the DOE's new form, EIA–8, preliminary data show the following margins for full serve unleaded gasoline:

January	10. 2
February	10. 2
March	10. 0

Thus, whereas a comparison of yearly average margins for full serve unleaded gasoline shows a decline, a more relevant comparison, involving margins for the past 8 months, shows an increase in the price of full serve unleaded gasoline relative to the average permitted margin.

With the average margin for full serve unleaded gasoline within less than 1 cent from ceiling, it is reasonable to assume that unleaded full serve gasoline in some areas of the country is selling at margin and that decontrol would cause an immediate rise in the price of unleaded gasoline. Moreover, since unleaded regular gasoline on both a self serve and full serve basis is selling considerably below margin in all areas of the country and is experiencing declining demand, it is also likely that the differential between leaded and unleaded would widen under decontrol.

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[39] Ibid., p. 23.
[40] Ibid., pp. 23–24.
[41] Ibid., p. 24.

The Environmental Assessment and the Supplement do not present any information on regional margins to show the economic and environmental impact of deregulation on a regional basis.

An exhibit prepared by the subcommittee staff, based on preliminary DOE data for March 1978, shows considerable disparity throughout the nation on actual margins for unleaded full serve regular gasoline. The data below displays actual March 1978 average margins for full serve unleaded gasoline by region and the corresponding average allowed margin, as based on Platt's 1973 Oilgram.

[Cents per gallon]

	May 1973 average margin	March 1978 average permitted margin	March 1978 average actual margin
Region 1 Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island	6.8	9.8	7.7
Region 2 New York, New Jersey, Puerto Rico, Virgin Islands	6.6	9.6	8.7
Region 3 Pennsylvania, Maryland, West Virginia, Virginia, District of Columbia, Delaware	7.2	10.2	8.8
Region 4 Kentucky, Tennessee, North Carolina, South Carolina, Mississippi, Alabama, Georgia, Florida, Canal Zone	7.0	10.0	9.9
Region 5 Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio	7.3	10.3	9.8
Region 6 Texas, New Mexico, Oklahoma, Arkansas, Louisiana	7.4	10.4	11.0
Region 7 Kansas, Missouri, Iowa, Nebraska	7.7	10.7	9.3
Region 8 Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado	7.7	10.7	10.8
Region 9 California, Nevada, Arizona, Hawaii, Trust Territory of the Pacific Islands, American Samoa, Guam	6.5	9.5	12.7
Region 10 Washington, Oregon, Idaho, Alaska	6.9	9.9	9.8

As shown above, unleaded full service regular gasoline in the Northeast is selling considerably below margin while in 14 states in the Midwest, South, and West Coast area, unleaded full service regular gasoline is selling over margin. Either gasoline dealers are violating DOE price regulations or the data are wrong. Since the DOE has virtually ceased enforcing retail price regulations, the possibility of widespread pricing violations cannot be discounted. On the other hand, the data relied upon by DOE, based on Platt's 1973 Oilgram are so sparce as to create the distinct possibility that the 10.3 cents per gallon average permitted margin for gasoline, as calculated by DOE and relied upon by DOE in fashioning its Environmental Assessment, is a meaningless figure. If that be the case, which was suggested by Mr. Bardin in a July 24, 1978, letter to Chairman Moss, then obviously the DOE is not now in a position to evaluate the economic and environmental effects of gasoline decontrol since it cannot establish the extent to which retail price regulations are controlling unleaded gasoline prices at the retail level.[42]

Or put another way, if the Environmental Assessment is correct in holding that the average permitted margin for unleaded full serve gasoline is 10.3 cents per gallon, the data suggest that unleaded full serve regular gasoline in 14 states is selling above margin, which may help explain the growing price differential between leaded and unleaded regular gasoline. If, on the other hand, the data are wrong, the

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[42] In his letter to Chairman Moss, Mr. Bardin noted that "The Platt's data unfortunately do not represent a cross section of all retail dealers (e.g., they appear to be weighted toward urban dealers) . . ." Since Platt's 1973 retail gasoline price data is based exclusively on data from 55 major cities, Mr. Bardin's statement regarding an apparent urban bias is somewhat of an understatement.

DOE has no basis for arguing that full serve unleaded regular gasoline is selling below ceiling and that the lifting of price controls, particularly on a regional basis, will not cause significant increases in the price of unleaded gasoline and a significant increase in the level of fuel switching.

II. Premium gasoline is selling at retail below the price permitted by regulation

The lynchpin of the DOE's argument for gasoline decontrol is that the lifting of price controls will have a negligible price impact because all gasoline is selling at retail below the regulated price, which as noted previously is apparently not true for full service unleaded gasoline in several areas of the country.

In the Environmental Assessment, the DOE holds that:

> The average maximum allowable margin for *all gasoline* [emphasis added] is estimated to be 10.3 cents per gallon (determined by adding the 7.3 cents per gallon estimated to be the average dealer's May 15, 1973, margin, based on Platt's Oilgram price data, and the additional 3 cents per gallon maximum allowed by the regulations to cover increased non-products costs).[43]

Were all gasoline selling at less than the 10.3 average maximum allowable margin set by regulation, there would be merit to the proposition that decontrol would not cause significant retail price increases, assuming the continued availability of gasoline. The DOE's contention that retail gasoline prices are less than those permitted by regulation is based, however, on 1977 gasoline prices. Retail prices for 1978, which were ignored in both the June Environmental Assessment and the Supplement show that this is not the case, according to calculations based on the same methodology employed by DOE in those reports.

In March 1978, the DOE released three Energy Data Reports prepared by its Energy Information Administration (EIA). These reports cited "preliminary statistics" for January, February, and March 1978 dealer retail and wholesale prices for gasoline which showed that the margins for leaded and unleaded premium gasoline at full serve pumps were greater than 10.3 cents per gallon:

[Cents per gallon]

	Selling price	Buying price	Average dealer margin
January 1978:			
Leaded premium	67.6	56.4	11.2
Unleaded premium	69.3	58.6	10.7
February 1978:			
Leaded premium	67.7	58.6	11.1
Unleaded premium	69.8	58.7	11.1
March 1978:			
Leaded premium	68.0	56.9	11.1
Unleaded premium	69.7	58.7	11.0

Source: DOE, Energy Data Reports for January, February, and March 1978.

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[43] Supplement, p. 23. Since Plat's 1973 Oilgram includes price data for regular gasoline only, it is not clear how DOE used Platt's as a basis for determining margins for premium gasoline unless it assumed that premium carried the same margin as regular gasoline.

Following the public release of its first quarter 1978 margin data in late March, the EIA spent several months refining this data. On June 14, the EIA recalculated the March 1978 gasoline margin data. As in the case of the earlier data, the results showed full serve unleaded and leaded premium gasoline to be over the 10.3 cents per gallon margin—10.8 cents per gallon for unleaded premium, and 11.0 cents per gallon for leaded premium.[44]

The DOE's retail gasoline margin data for March 1978 raises a number of issues. Assuming the revised June data to be "preliminary," as maintained by Messrs. O'Leary and Bardin at the Subcommittee hearing, the question arises as to why the DOE did not "finalize" the 1978 margin data that ran contrary to its assertion that all retail gasoline was selling below margin prior to the release of the Environmental Assessment and the Supplement on June 28. A second alternative would have been for the DOE to have cited its "preliminary" 1978 margin data in its June reports, a course which Mr. Bardin, under questioning, said that he personally regretted not having done.[45]

DOE's omission of any reference to 1978 margin data in the June reports is suggestive of incompetence or an attempt to withhold from public review information that undercut its case for decontrol. Given the lack of coordination between the Energy Information Administration and the Economic Regulatory Administration within DOE, it is conceivable that persons within ERA charged with preparing the Environmental Assessment and the Supplement were unaware of EIA's published 1978 margin data. It is also possible that persons within EIA charged with reviewing those reports did not alert ERA to their having compiled data that mocked DOE's contention that gasoline carried an average retail margin of 10.3 cents per gallon. The subcommittee has not determined whether the failure to include first quarter 1978 margin data in the decontrol Assessment and Supplement was deliberate or inadvertent. It is clear, however, that based on the subcommittee's findings, DOE can no longer rationally argue for gasoline decontrol on the basis that gasoline is selling below margin. Such indeed is the conclusion to be drawn from a July 24, 1978, letter to Chairman Moss from David Bardin following the subcommittee hearing.

In that letter, Mr. Bardin, contrary to both the Environmental Assessment and Supplement, conceded that DOE "does not have information that will allow us to estimate the average margin for either leaded premium or unleaded premium gasoline."

In the absence of reliable margin data, it is seemingly impossible to project with any degree of certainty the likely effects of gasoline decontrol at the retail level except to say that gasoline prices would doubtlessly increase in those areas of the country where retail prices are currently restrained by DOE price regulations.

III. The market is preventing refiners from charging the maximum price permitted by regulation

In the Environmental Assessment and Supplement, in keeping with the theme that gasoline price controls are not serving to control the price of gasoline, the DOE argued that the market is preventing gasoline refiners from charging the maximum price permitted by regulation.

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[44] Subcommittee Staff Exhibit, Hearing, July 17, "March 1978 Average Retail Nationwide Margins for Motor Gasoline."

[45] Testimony of David Bardin, Hearing, July 17, Tr. p. 234.

According to the DOE:

> Most refiners continue to have large amounts (around $1 billion as of January 1978) of unrecovered or 'banked costs' that could be passed through on gasoline, suggesting that the total gasoline market at the refinery level is in equilibrium.[46]
>
> Banked cost data submitted by refiners to DOE indicates [sic] that two large refiners had no bank costs in January 1978. These two refiners account for 13 percent of gasoline sales by the top 30 refiners. Gasoline banks for the other top 30 refiners were almost $1 billion in January 1978, which is approximately $100 million higher than banks in January 1977. Substantial banked costs held by refiners which supply most of the gasoline market indicate that refiners in general are not being constrained by the pricing regulations.[47]

Were it true as suggested by DOE that refiner bank credits were increasing and that refiners had claim to some $1 billion in bank credits, the DOE's contention that market forces and not gasoline price controls currently restrain the price of gasoline at the refinery level would make sense.

But again, as throughout the June reports, the DOE fashioned its case on stale data. The latest bank cost data collected by DOE, and available to it *prior* to the release of the Environmental Assessment and the Supplement, show significant declines in refiner banks. For the DOE to have suggested that refiner banks are increasing in the face of evidence to the contrary raises additional questions concerning the competence and the credibility of the DOE in preparing its June decontrol reports.

On June 19, a week prior to the release of the Environmental Assessment and Supplement, the DOE's Ivan Maple submitted to Barton R. House, Assistant Administrator, ERA, a recently completed telephone survey of refiner gasoline banks. The Maple survey reported on a preliminary basis gasoline banks for 11 major refiners as of June 1. The data showed that the banks of 11 refiners, totaling $774 million as of March 1978, has dropped to $304 million, a 60 percent decline.

The DOE had reason to believe, therefore, that gasoline banks were declining when it released its *Environmental Assessment* and *Supplement.*

In early August, the DOE, at the behest of Chairman Moss, updated Maple's original survey. The data showed a continued decline in gasoline banks of a magnitude sufficient to further undermine DOE's contention that gasoline price regulations were not restraining the price of gasoline at the refinery. These latest data available to DOE show that three of the top fifteen refiners have totally exhausted their gasoline banks while others are on the verge of having done so.

According to an August 15 letter from ERA Administrator David J. Bardin to Chairman Moss, refiner bank data collected by Mr. Maple over the telephone is very imprecise and subject to significant revision when officially reported to the DOE by the refiners approximately 60 days later on Form P–110–M–1. Leaving aside the question of why Mr. Maple was ordered to conduct his initial telephone survey in the first place, Mr. Bardin fails to mention that refiners can and do under DOE regulations revise their official bank costs months after the data were initially reported to the DOE.

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[46] Environmental Assessment, p. 14.

[47] Supplement, p. S–39.

The June telephone survey showed a 60% decline in the banks of 11 refiners for the period March through May, 1978. The data reported formally to DOE, according to an August 11 letter from Mr. Bardin, showed a 30% decline for the same period for the largest 29 refiners.

The large March to May decline is also at variance with the seasonal pattern of bank cost change. In 1977, there was virtually no change in total gasoline banks between March and May. The banks are traditionally drawn down during the summer months, and are built up over the winter. This reflects changes in both the volume of gasoline produced and in inventory. For example, the $100 million increase in gasoline banks between January 1977 and January 1978 cited as an example of the action of market forces by DOE may be due almost entirely to the increased inventory of gasoline that existed in January 1978.

The expected summer drawdown of gasoline stocks in 1978 appears to have signifficantly exceeded normal seasonal variations. The Subcommittee fully expects that in the fall, when the "official" refiner bank reports have been filed for July and August, the data will show that aggregrate refiner gasoline banks experienced a huge decline.

It has been widely speculated within the petroleum industry, moreover, that Amoco's announced August 1, 1978, one cent per gallon reduction in the price of gasoline at the refiner level and Shell's August 14⁶⁄₁₀ of a cent reduction are attributable to those refiners having exhausted their bank credits. Because the refiner bank data provided the Subcommittee by DOE are proprietary, the Subcommittee will neither confirm nor deny this speculation. It is clear, however, that wholesale gasoline prices in the aggregate are becoming increasingly constrained by DOE price regulations and that gasoline decontrol will increase the price of gasoline at the refiner level. The Environmental Assessment is wrong, therefore, in stating that "it is clear that refiners are not being constrained by price controls." [48]

IV. Gasoline Supplies

Gasoline price and allocation controls were established to help deal with the estimated 280,000 barrel per day gasoline shortage caused by the 1973–74 Arab oil embargo.

The controls established by Congress are to remain in place, absent a finding that gasoline is in adequate supply. Under terms of the 1973 Emergency Petroleum Allocation Act, as amended, the Secretary of Energy can submit a petroleum decontrol amendment to Congress on the condition only that the product in question "is no longer in short-supply." From an economic perspective it is unlikely that the Congress would ever accept an amendment to remove gasoline price and allocation controls if alerted to the prospect of a near term gasoline shortage.

Accordingly, the FEA in its September 1977 gasoline decontrol study, emphasized that gasoline supplies would remain adequate through 1979 or for the next 2⅓ years. However, in its June 1978 decontrol Supplement and Environmental Assessment, the DOE did not project future gasoline supplies for the same length of time.

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[48] Environmental Assessment, p. 23.

Instead, the same cut-off date was used—the end of 1979—but now the forecast covered only 1½ years.

As a result, neither the June Supplement nor the Environmental Assessment contain any mention of 1980 gasoline supply forecasts. The Environmental Assessment states for example that "On the basis of the most recent information DOE concludes that it is more likely that the supply of motor gasoline over the 1978–79 period will be adequate. . . ."[49]

DOE's failure to update its June reports to include gasoline supply projections beyond those contained in its September Report undermines the very purpose of the Supplement, which was to present a "more up-to-date estimates of the supply/demand balance and other factors bearing on decontrols."[50]

Assurances in the June Supplement and the Environmental Assessment regarding gasoline supply through the balance of this year and next left open the question of the effect of EPA's October 1979 requirement to reduce the average lead content of gasoline to 0.5 grams per gallon. EPA's lead phasedown requirement, plus the yearly increased demand for unleaded gasoline for new cars, will reduce gasoline output from existing refineries. New capacity will have to be built to take account of the lead phasedown and the need to produce higher octane unleaded gasoline to meet new car requirements.

DOE's failure to discuss 1980 gasoline supplies in its June 1978 reports was not an oversight. Economic Regulatory Administrator David J. Bardin requested the DOE's Energy Information Administration to furnish him with an estimate concerning projected 1980 gasoline supplies prior to the release of the Environmental Assessment and Supplement. The subsequent failure of DOE to cite the EIA 1980 gasoline forecasts, which were sent to Mr. Bardin in late May and early June, in its June 28 reports is inexcusable and bespeaks of a deliberate effort to withhold information pregnant with implications concerning the economic and environmental consequences of gasoline decontrol.

In a memorandum of May 22, 1978, C. William Fischer, Acting Assistant Administrator of the EIA, summarized for Mr. Bardin the results of EIA's 1980 gasoline supply forecast, as based on assumptions established by Mr. Bardin.

The EIA forecast projected a potential 1980 gasoline shortage of 500,000 barrels per day, as compared to the 280,000 barrel per day gasoline shortage that resulted from the 1973–74 Arab oil embargo.

Because the 4.9 percent economic growth rate used in this study was considered overly optimistic, the study was repeated, based on an assumed economic growth rate of 3.5 percent, below the administration's most recent economic growth forecast of 4.2 percent. The second study, as reported to Mr. Bardin in a June 7 memorandum from Mr. Fischer, projected a gasoline shortfall of 400,000 barrels per day in 1980 assuming "that the EPA lead phasedown schedule to 0.5 g/gal [grams per gallon] would be in effect in 1980 and present octane levels would be maintained."[51]

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[49] Ibld., p. 19.

[50] Supplement, p. S–3.

[51] Update to September 1977 Gasoline Decontrol Report: Effect of Alternative Economic Assumptions for 1980 Gasoline Situation, memorandum from C. William Fischer, Acting Assistant Administrator, EIA, to David J. Bardin.

A 400,000 per day gasoline shortfall, with or without gasoline controls, would be an unmitigated national disaster. Absent price controls, a shortage of that magnitude, according to previous DOE calculations, would hike gasoline prices an estimated 20–40 cents per gallon, or from $20–40 billion a year.[52] Since the shortage forecast by the EIA model indicated a 300,000 barrel per day shortage of unleaded gasoline (plus a 100,000 per day shortage of leaded gasoline), the environmental impact of this projection in terms of increased fuel switching is staggering.

In a subsequent June 7 "Action Memorandum" on gasoline decontrol to Secretary Schlesinger and Deputy Secretary O'Leary, Mr. Bardin warned "that if EPA continues on its current lead phasedown schedule (which will require a *significant* reduction in gasoline lead content in October 1979), our projections indicate that significant gasoline shortages could develop in 1980, with or without controls." [53] (Emphasis added.) Reference to a 1980 gasoline shortage, as included in this five-page memorandum, was prepared by Mr. Bardin's top assistant, Douglas Robinson, according to Mr. Robinson.

Following the subcommittee's release of the Bardin memorandum on August 1, Mr. Bardin, in a telephone call to Chairman Moss, said that he had never seen nor sent the June 7 "Action Memorandum" to Messrs. Schlesinger and O'Leary that bears his name but not his signature.

In a subsequent communication, Chairman Moss reminded Mr. Bardin that the memorandum in question had been previously described by DOE as having been sent by Mr. Bardin to Mr. O'Leary and Dr. Schlesinger.[54] Assuming Mr. Bardin to be correct, however, in his claim not to have seen nor to have sent the June 7 "Action Memorandum," questions arise as to whether Mr. Bardin *ever* alerted Dr. Schlesinger and Mr. O'Leary to EIA's 1980 gasoline supply forecasts and why, after having reviewed them, Mr. Bardin did not initiate a high level DOE/EPA review of 1980 gasoline supplies for inclusion in the Environmental Assessment and as a first step toward heading off a potential national disaster.

In a July 26 letter to Chairman Moss, following the subcommittee's placement of Mr. Fischer's June 7 memorandum into the hearing record, Mr. O'Leary sought to minimize EIA's findings in citing various steps that could be taken to reduce the gasoline shortage forecast by EIA.

Before discussing the points raised by Mr. O'Leary, the subcommittee wants to emphasize that it neither supports nor rejects EIA's findings or those included in a subsequent June 9, 1978, memorandum from Barton House to Mr. Bardin, based on a telegraph survey of major refineries and which projected a shortfall of gasoline from zero to 300,000 barrels per day in 1980.[55] The issue from the subcommittee's perspective relates to the credibility of DOE in seeking to prevent discussion of 1980 gasoline supply forecasts in the context of gasoline decontrol and in failing to alert the Congress and various government agencies, such as the EPA, of its concerns regarding future gasoline supplies so as to permit timely consideration of steps that could be taken to assure adequate 1980 gasoline supplies. An attempt by DOE to conceal its 1980 forecast as in the Supplement and the Environmental Assessment or to minimize them, as attempted by Mr. O'Leary in his letter to Chairman Moss, is not acceptable.

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[52] Final Report, Findings and Views Concerning the Exemption of Motor Gasoline From the Mandatory Petroleum Allocation and Price Regulations, Federal Energy Administration, Office of Regulatory Programs, September, 1977, p. 96.

[53] "Action Memorandum: DOE Energy Actions Nos. 3 and 4 (Motor Gasoline Decontrol) and Special Rule No. 4," from David J. Bardin to James R. Schlesinger, June 7, 1978, p. 3.

[54] July 13, 1978 letter from John Treanor, DOE Information Access Officer, to Diane B. Cohn regarding Ms. Cohn's request for materials relating to gasoline decontrol under the Freedom of Information Act.

[55] "1980 Motor Gasoline Supply/Demand," memorandum from Barton R. House to David J. Bardin.

As noted by Chairman Moss in his August 1 letter of reply to Mr. O'Leary, the Deputy Secretary's contention that 1980 gasoline supplies can be enhanced if EPA were to rescind its October 1979 deadline for reducing the lead content of gasoline is true, but would provide only an additional 150,000 to 200,000 barrels per day of gasoline in the face of a projected shortage of 400,000 barrels per day.

Mr. O'Leary's added suggestion that this deficit could be made up by permitting the reintroduction of the unleaded gasoline additive MMT must be judged in the light of EPA's testimony before the Federal Energy Regulatory Commission on November 30, 1977, in which EPA stated that there was little likelihood of its lifting the ban on MMT because of the effects of MMT on the ability of new cars to meet emission standards.[56]

Mr. O'Leary's further suggestion that gasoline supplies could be stretched by a one point drop in the average octane level of gasoline is naive because refiners are currently being forced to increase the octane level of gasoline to meet new car requirements, a trend that cannot be reversed by 1980. Mr. O'Leary's concluding thought that gasoline decontrol would encourage refinery expansion is not relevant, moreover, to 1980 gasoline supplies given the time necessary to plan and to construct such facilities.

What is relevant, however, is a full and dispassionate discussion of 1980 gasoline supplies in a joint DOE/EPA report to the Congress prior to consideration of gasoline decontrol. The failure to provide Congress with such a report would severely impair its ability to render an informed judgment on gasoline decontrol.

V. *Gasoline price controls are discouraging refiners from investing in new facilities*

In his opening statement before the subcommittee on July 17, Mr. O'Leary repeatedly cited the reluctance of refiners to invest in new facilities which he said "is easy to see why—there is an understandable reluctance on the part of many refiners to make major investments in a controlled situation where recovery of a return on investment is prohibited and the future regulatory outlook is uncertain." [57]

On the same day that Mr. O'Leary told the subcommittee that gasoline price controls were responsible for the lack of investment in refining, The Oil and Gas Journal reported an interview with Mr. O'Leary in which he cited environmental roadblocks as having blocked the construction of new refineries on the East Coast since 1958.[58]

This apparent contradiction notwithstanding, the arguments advanced by Mr. O'Leary before the subcommittee and in the Environmental Assessment and the Supplement on the need to decontrol gasoline prices to spur lagging investments in refinery operations is replete with error and contradiction.

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[56] Testimony of Norman D. Shutler before Federal Energy Regulatory Commission, Hearing on Motor Gasoline Decontrol, November 30, 1977, p. 303.

[57] Statement before the Interstate and Foreign Commerce Committee, Subcommittee on Oversight and Investigations, Hearing on Gasoline Decontrol: Department of Energy Justification, July 17, 1978, p. 3.

[58] "O'Leary: Conflicting Programs Foil Energy Policy," The Oil and Gas Journal, July 17, 1978, p. 31.

It is true, as stated by Mr. O'Leary, that gasoline price regulations do not permit refiners to earn a return on that portion of their investment devoted to gasoline production. The previous decontrol of products other than gasoline has had the effect, however, of allowing refiners to recover as much of a return on their total investment as permitted by the market. Since about 50 percent of new investment is allocated to gasoline, refiners, under present regulations, are not technically permitted to earn a return on approximately one-half of their total investment.

A refiner can, however, if market conditions permit, raise gasoline prices to an amount equal to its total "bank", thus permitting the refiner to earn a full return on its investment. Since gasoline banks as of January of this year were approximately $1 billion, refiners overall cannot be said to have been denied the opportunity to earn a full return on investment under gasoline price controls.

In its Environmental Assessment and Supplement, the DOE argued both sides of the question in maintaining, as pointed out to Mr. O'Leary by Representative Toby Moffett,

> that in a way you are trying to have it both ways. On the one hand, you are assuring us that gasoline is selling below the permitted regulated price and that bank credits will increase, thus permitting a full return on investments. At the same time, you seem to be arguing that we should decontrol to prevent the refiner bank credits from being reduced to zero with refiners not being able to get the full return on their investment.[59]

The recent decline in refiner banks of the past few months can create a situation, however, in which many refiners will be unable to recover a return on their investment in gasoline refining. This situation can be remedied, however, as noted by Representative Albert Gore, Jr., by a change in the regulations without having to decontrol gasoline prices.[60]

It should also be noted that gasoline decontrol, again contrary to Mr. O'Leary's testimony, will be of no use in heading off a potential 1980 gasoline shortage. As noted by a representative of Exxon in testimony before the DOE on July 14 that ". . . you are looking 3, 4, 5 years into the future between making an investment decision and having the benefit of its being onstream." [61]

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[59] Hearing, July 17, Tr. p. 283.

[60] Ibid., Tr. p. 365.

[61] Testimony of R. A. Pierpont, Jr., Manager-Marketing Department, Exxon Company, U.S.A., before Department of Energy, "Public Hearing: In the Matter of Environmental Assessment of the Exemption of Motor Gasoline from the Mandatory Petroleum and Price Regulation," p. 179.

MINORITY VIEWS OF HON. JAMES M. COLLINS

The issue before us is the Department of Energy's recommendation that motor gasoline controls be terminated. I strongly support this action and in these views, I will explain my reasons.

I think that the first place to start in any analysis of this proposal is the year 1973. This, of course, is the year of the Arab oil embargo as well as the year which saw the passage of the Emergency Petroleum Allocation Act (EPAA) from which sprung the current motor gasoline controls. In early October 1973 the "Yom Kippur" war broke out in the Middle East, and an embargo was imposed on the United States and other countries by the oil-producing Arab nations. Our Nation was then faced with oil shortages and the possibility of sharply increased costs for petroleum products. It was in this crisis atmosphere that the EPAA was considered by the Congress, and the purpose of the legislation was to give the President the authority to meet this emergency situation. As a member of the then Subcommittee on Communications and Power as well as a conference on EPAA, I remember the events vividly.

LEGISLATIVE HISTORY OF EPAA AND EPCA

The legislative history of EPAA clearly and forcefully confirms that the mechanisms put into place by this legislation were to deal with this emergency situation. In the debate on the House floor on October 16, 1973, the floor manager confirms that the mechanisms put into place by this legislation were to deal with this emergency situation. In the debate on the House floor on October 16, 1973, the floor manager for the bill, Chairman Staggers, of our Interstate and Foreign Commerce Committee, made this point when he made the following comments: (See Congressional Record, p. H0109)

> (1) Mr. Chairman, we as a nation face critical shortages in petroleum products.
>
> (2) Critical shortages also exist in gasoline and residual fuel oil.
>
> (3) *This is not a permanent bill. This is only intended to take care of the crisis.* (Emphasis added.)

The Republican floor manager, Hon. Clarence Brown, of Ohio, also made the exact same points in the floor debate about the crisis conditions and how the bill focused on the emergency situation when he said the following (Congressional Record, p. 9110):

> (1) The need for congressional action is clear. We now face actual and imminent shortages in crude oil, residual fuel oil and refined petroleum products."
>
> (2) *Our bill focuses on an emergency situation.*" (Emphasis added.)

The conference report on the EPAA also makes the very same point when it said:

> * * * this bill focuses on the short-term objectives of seeing to it that during times of shortage our priorty needs are met and whatever limited supplies we have are equitably distributed throughout the Nation to meet regional needs and preserve competition in the marketplace.

Another indicator of the short term and emergency nature of the legislation is the fact that by its terms the authority under this legislation was scheduled to expire February 28, 1975. My point in this discussion of the legislative history of EPAA is that the legislation gave unto the President broad powers to meet a crisis condition of the sort that were usually granted only in times of war or national emergency. This authority was never intended to remain in place after the crisis situation had ended.

After the passage of EPAA, regulations were promulgated by the Federal Energy Administration pursuant to mandatory authority under the act which established a comprehensive regulatory structure applicable to all sectors of the petroleum industry. By 1975, however, the problems that EPAA was to address were no longer present. There was no general shortage of crude oil nor refined petroleum products, and the supply side of the equation had virtually returned to the pre-embargo conditions of 1972.

It was against the backdrop of the facts outlined in the preceding paragraph that Congress considered the Energy Policy and Conservation Act of 1975 (EPCA). One of the important considerations at this time was what to do about EPAA, because its authority was scheduled to expire in 1975. Congress decided to extend EPAA, but in so doing, Congress clearly demonstrated its point of view indicating that the comprehensive regulatory structure should be dismantled and put on a standby basis. The conference report on EPCA addressed this point when it said:

> (1) In view of these changed conditions, a comprehensive regulatory structure . . . may no longer be needed.
>
> (2) Extension of EPAA and its conversion to a stand-by authority offers, in addition, the potential *for a smooth transition of petroleum markets from a closely regulated state to a large unregulated status subject to standby pricing and allocation authority.* (Emphasis added.)

The points that the above-cited quotations from the EPCA conference report make are that although Congress rejected sudden and immediate decontrol of petroleum products, it decided that a better course of action was to decontrol each on an individual basis until all of the controls except for crude oil entitlements were eliminated by administrative action which would be subject to congressional veto. This, of course, has been exactly the course of action that has been pursued with residual fuel oil, middle distillates, naphthas, gas oil, lubricants, greases, and other specialty products and naphtha-based jet fuel all being exempted from EPAA requirements. The scheme of things anticipated by this legislation was to replace mandatory price and allocation controls with standby authority that could be quickly reimposed in the event of another similar emergency situation such as the one that existed in 1973. From my vantage point, the Department of Energy's (DOE) proposed action to exempt motor gasoline from the allocation and price regulations is not only entirely consistent with, but called for by the clear intent of EPCA. DOE has found, as is called for by EPAA, that controls are no longer necessary to assure adequate supply of gasoline, equitable prices or to meet the other objectives of EPAA. Having so found, the action is entirely appropriate. Those who would challenge this DOE action are running in my opinion totally at variance with the legislative intent as expressed in the EPAA Amendments contained in EPCA. Today's situation simply does not qualify as an emergency requiring these controls.

POSITION OF ENVIRONMENTAL PROTECTION AGENCY

Perhaps, the objection to DOE's gasoline decontrol proposal that has gained the most currency comes from the Environmental Protection Agency (EPA). The EPA argues that decontrolling gasoline prices will make the price differential between unleaded and leaded regular gasoline greater than it is currently, thus leading to more price-motivated fuel switching. I find EPA's current 1978 position on this differential to be very interesting and curious due to a discovery that I made in looking at what EPA was saying about this same subject back in 1973. It will be recalled that back in 1973 EPA was attempting to convince the Congress and the public that its lead phasedown plans were meritorious and should be pursued with all possible vigor. The Congress at the time was considering amendments to the Clean Air Act to freeze emissions standards at the levels established for various model years ranging from 1974 to 1976.

The then Subcommittee on Public Health and the Environment of our Committee on Interstate and Foreign Commerce held hearings on December 3, 4, and 5 of 1973 on the subject of new motor vehicle and fuel economy. Former EPA Administrator Russel Train testified at the December 3, 1973 hearing and brought with him some charts with the heading of "Lead: The Facts." EPA was going to set us all straight on this lead issue by debunking the criticisms of their lead standard with "The Facts." One of the facts which was contained on these charts, which were reproduced for the hearing record, was that the removal of 60 to 65 percent of the lead in gasoline as proposed in EPA's regulations for lead content by 1979 would result in a price increase of only 0.1 of a cent or $3 for a car driven 40,000 miles. What the EPA was telling us then, in 1973, was that the differential between leaded and unleaded gasoline would not be very great; in fact, only 0.1 of a cent. This testimony was given at a time, of course, when EPA's proposals were under heavy fire in many quarters and one of the principal concerns was the additional cost to the consumer of unleaded gasoline. EPA said, however, in 1973 no, that concern was clearly wrong and the cost would be slight indeed. Now after 4 automobile model years when almost all new cars sold in the United States have had to use unleaded gasoline, the EPA now says that the cost of unleaded versus leaded regular is too great and maybe even greater with decontrol. As a result EPA is seeking to have DOE, in effect, enforce the no lead standards by means of price controls on gasolines. When EPAA and EPCA were before the Congress, I neither heard nor read a single word about this legislation's role in reducing automobile emissions. The legislation had clearly defined purposes and this was certainly not one of them.

Instead of seeking alternative solutions to what they refer to as "fuel switching," EPA spends the taxpayers' money going around the country surveilling citizens buying their gasoline to see if they are putting leaded gas in cars that require unleaded. The sole purpose of this surveillance network of EPA's in 33 States seems to be to gather information in order to derail DOE's plan to exempt motor gasoline from the requirements of the EPAA. In my opinion, if fuel switching is a problem, the EPA should be looking at their authority under the legislation which gave them a vast array of weapons to address environmental concerns. They should look to their own arsenal rather than seek to convince DOE and Congress that DOE should relieve them of this obligation. The Clean Air Act authorizes EPA not DOE to regulate emission of air pollutants from moving sources.

Less than 2 years ago our Subcommittee's report on "Federal Regulation and Regulatory Reform" looked at EPA's record in carrying out their responsibilities for Mobil source emission control and found their efforts woefully lacking. As the report pointed out:

> Effective regulation of motor vehicle emission depends upon four complementary enforcement programs (certification, testing at the assembly line, recall and inspection and maintenance) each specifically authorized by Congress."

Nowhere in this report is there any mention of the fact that a fifth program of maintaining gasoline controls is necessary for the effective control of automobile emissions.

The subcommittee report concluded that:

> In effect, the act's (Clean Air Act) systematic strategy for regulating motor exhausts has been largely crippled and is limping along on one program, certification, which cannot even assure that cars coming off the assembly line meet clean air standards.

As one can readily see from the above quoted remarks from this Subcommittee's report, the EPA has been ineffective in carrying out its mission so now they seek the aid of DOE and price controls to make up for their own deficiencies. In effect, they want to pass the buck to DOE. I point out additionally, that no where in the Clean Air Act nor its legislative history is there any statement that I could find which said that gasoline price controls were an important weapon in the battle against auto emissions.

FUEL SWITCHING

I would like now to address this "fuel switching." As I pointed out earlier, the EPA using its network of clandestine surveillance agents has witnessed the fueling of 804 vehicles which require unleaded gasoline. Of these 804, 84, or 10.45 percent filled up with leaded gasoline. EPA at this point does not know why these consumers used leaded gasoline. EPA suspects, however, that the price differential is the motivating factor because of the strong directional trend toward switching as the price differential increased.

Price is not the only motivation to switch fuels. Performance is also a serious concern. The Coordinating Research Council's annual octane requirement survey for instance shows that the percentage of owners reporting knock on their fuel, rose from a constant value of 10 percent in 1967 through 1974, to 20 to 40 percent for 1975 and 1976. The switch to leaded regular has been assumed by EPA, obviously, as a switch for price reasons, whereas a switch to leaded premium is for performance. The simple fact is that the switch to leaded regular could also be for performance. I have acquired the octane ratings of 12 of the Nation's leading retail gasoline marketers and these figures uniformly show that leaded regular has octane ratings higher than unleaded regular. The figures as of May 1978 are as follows:

Company	Unleaded regular octane rating (R+M/2)	Leaded regular octane rating (R+M/2)
ARCO	88.1	89.6
Chevron	87.9	89.5
Exxon	89.1	90.3
Gulf	88.2	89.9
Marathon	87.6	89.9
Mobil	88.1	90.0
Phillips	87.3	89.9
Sun	87.5	90.4
Texaco	87.9	89.8
Union	87.2	90.3

As can be seen from the above data, switchings to leaded regular clearly gives the motorist additional octane quality.

Another indication of this performance aspect is the position of Amoco and Shell as the country's No. 1 and No. 2 gasoline marketers. Amoco offers for sale an unleaded premium with an octane rating of 93.6 which is considerably higher than all the unleaded regular and leaded regular octane ratings shown above. These unleaded premium sales account for 33 percent of Amoco gallonage with unleaded regular accounting for only 22 percent. Shell, the second leading gasoline marketer, on the other hand, marketed an unleaded grade of gasoline which has an octane rating of 90.9, or again higher than all the unleaded regular and leaded regular ratings shown above. Other companies are also recognizing the importance of offering for sale a higher octane unleaded gas as evidenced by Mobil's announced intention to begin the marketing of an unleaded premium. I also understand that most of the major gasoline marketers are looking seriously at exactly the same approach.

Another factor that must be looked at when discussing the price-differential issue is the question of competitive strategies utilized by retail marketers gasoline. At the present time the largest seller is leaded regular which has 50 percent of the current market. As a result, service station dealers are competing heavily for this large share. Each year, however, the percentage for unleaded increases with older cars being replaced by new cars which required unleaded gasoline. We are at the point now where 32 percent of the gasoline sold in this country is unleaded and this percentage is steadily increasing. As the Lundberg letter of July 14, 1978 points out:

> Competition on unleaded midgrade gasoline while not raging in the streets is beginning to take on significance. Many retailers are becoming more aggressive in their pricing strategies toward this big and growing market.

The point, of course, is that as the unleaded market moves toward the dominant position pricing strategies will shift from extreme competition for sale of leaded regular to unleaded.

EPA PROPOSAL TO CONTROL LEADED VERSUS UNLEADED GASOLINE PRICE DIFFERENTIAL

I would now address my attention to the specific proposal that has been made by EPA which is that new controls on retail price differentials between leaded and unleaded gasoline be instituted. I once again must say that I strongly oppose the use of mandatory price controls to effect an environmental end, especially when there are alternative solutions to whatever fuel switching is occurring because of price motivation.

In this regard, I concur with the statement of the President's Council on Wage and Price Stability before the Federal Energy Regulatory Commission, dated December 23, 1977. I would now quote from various portions of the Council's statement which strongly opposed this regulated differential approach:

> (1) The Council on Wage and Price Stability (Council) strongly opposes EPA's proposal for new controls on gasoline as being inflationary.
>
> (2) It is not clear how the present differential can be frozen or even reduced without at least severely constraining price competition among retailers and creating extensive dislocations in the market. However, it is more likely that, to insure EPA's objective, nothing short of complete and pervasive controls would be required, extending to all grades of gasoline and across all dealers and refiners.
>
> (3) In the Council's view EPA is rather unreasonable in thinking that any enforcement mechanism can bring about complete compliance short of banning leaded gasoline completely. Since fuel switching is apparently taking place even under today's differentials between the fuels (permitted by current controls), the proposal to freeze such differentials will not result in "complete effectiveness".
>
> (4) The Council submits that EPA should develop and vigorously pursue methods of enforcement of its emission control regulations which are less costly to society and more practicable.
>
> (5) The proposal's true cost to society, though enormous, are largely hidden, whereas it is administration policy to insure that costs of Federal regulatory programs are made as explicit as possible.
>
> (6) * * * using an elaborate system of price controls on gasoline under the Emergency Petroleum Allocation Act of 1973 as amended as a method to reduce automobile emissions is inappropriate.

PRICE CONTROL DISCOURAGING REFINERY INVESTMENT

One of the most salient points made by the DOE in support of its proposal to decontrol motor gasoline is the fact that current regulations constrain investment in refining capacity. This constraint develops from the fact refiners are permitted by the regulation to pass through only increased costs in the product and non-product-cost categories. In the non-product-cost category no provision is made for a return on investment. Allowance is only made for such things as depreciation, labor, maintenance, additive costs, refinery fuel, etc., but not for a return on investment. This is a serious disincentive which needs to be remedied via decontrol of motor gasoline prices. "Banks" do not include a provision for return on investment. This disincentive coupled with the uncertain regulatory outlook certainly discourages new investments in refining capacity, particularly since gasoline has now been under price control since August 15, 1971.

James M. Collins.

APPENDIX

APPENDIX 1

DEPARTMENT OF ENERGY

ECONOMIC REGULATORY ADMINISTRATION

[10 CFR Parts 210, 211 and 212]

Environmental Assessment of the Exemption of Motor Gasoline from Mandatory Petroleum Allocation and Price Regulations

AGENCY: Department of Energy
Economic Regulatory Administration

ACTION: Notice of availability, request for comments and public hearing.

SUMMARY: The Economic Regulatory Administration (ERA) of the Department of Energy (DOE) announces the availability of an environmental assessment (EA) on the pending proposal to exempt motor gasoline from the Mandatory Petroleum Allocation and Price Regulations. The EA reaches the conclusion that the proposed exemption of motor gasoline from controls does not significantly affect the quality of the human environment. That conclusion leads to a determination that an environmental impact statement (EIS) is not required with respect to this action. DOE now requests public comments on that negative determination and the underlying EA prior to promulgation of the final rule. As part of the public comment process, the ERA will receive oral statements at a public hearing.

DATES: Comments by July 18, 1978, 4:30 p.m.; Requests to speak by July 7, 1978, 4:30 p.m.; Hearing Date: July 12, 1978, 9:30 a.m.

ADDRESSES: Written comments and requests to speak to: Public Hearing Management, Box UI, Economic Regulatory Administration, 2000 M Street, N.W., Room 2313, Washington, D.C. 20461; Telephone requests to speak to: (202) 254-5201; Hearing location: Room 2105, 2000 M Street, N.W., Washington, D.C. 20461.

FOR FURTHER INFORMATION CONTACT:

Deanna Williams (DOE Reading Room)
12th and Pennsylvania Avenue, N.W.
Room 2107
Washington, D.C. 20461
(202) 566-9161

Rue Dann (Media Relations)
Department of Energy
12th and Pennsylvania Avenue, N.W.
Room 3104
Washington, D.C. 20461
(202) 566-9833

William E. Caldwell
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(202) 566-9760

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(202) 566-9750

SUPPLEMENTARY INFORMATION:

- I. Background
- II. Comment Procedures
  - A. Written Comments
  - B. Public Hearing
    - 1. Requesting Participation
    - 2. Conduct of the Hearing

I. Background.

The DOE has proposed the exemption of motor gasoline from the petroleum allocation and price regulations, pursuant to the provisions of section 12 of the Emergency Petroleum Allocation Act, as amended (EPAA, Pub. L. 93-159), which was added to the EPAA on December 22, 1975, by the Energy Policy and Conservation Act, Pub. L. 94-163. All procedures precedent to submission of this exemption to the Congress for its review have been completed, including the submission of the proposal to the Federal Energy Regulatory Commission for its concurrence.

Pursuant to 10 CFR Part 208, an environmental assessment of the proposal has been prepared and is appended to this notice. In the EA, we have set forth an analysis and review of the possible environmental impacts associated with the proposed rulemaking to exempt motor gasoline from the Mandatory Petroleum Allocation and Price Regulations. The EA confirms the findings of an earlier EA prepared by the Federal Energy Administration (FEA) (42 FR 40915, August 12, 1977) that exemption of motor gasoline from mandatory allocation and price regulation will not "significantly affect the quality of the human environment" within the meaning of section 102(2)(C) of the National Environmental Policy Act of 1969, 42 U.S.C. 4332(2)(C). The conclusion of the EA leads to a determination that an EIS is not required for this action.

We invite your views regarding the negative determination and its underlying EA. The decision as to whether the DOE should issue the final rule and submit the motor gasoline exemption to the Congress for review will not be made until we evaluate the written comments and testimony received pursuant to this notice.

The EA is based upon the document prepared in September 1977 by the FEA entitled Findings and Views Concerning the Exemption of Motor Gasoline from the Mandatory Petroleum Allocation and Price Regulations (September Report) and ERA's updated Supplement to the September Report. You may obtain copies of these documents from Rue Dann, Department of Energy, Office of Public Affairs, 12th and Pennsylvania Avenue, N.W., Room 3138, Washington, D.C. 20461. Copies of the September Report and the Supplement are also available for public review in the DOE Reading Room, Room 2107, Federal Building, 12th and Pennsylvania Avenue, N.W., Washington, D.C., between the hours of 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

II. Comment Procedures

A. Written Comments.

You are invited to comment on the negative determination and its underlying EA by submitting data, views, or arguments with respect to the matters set forth therein. Identify comments on the outside envelope and on documents you submit with the designation "Environmental Assessment--Motor Gasoline Regulation Exemption," Box UI. Submit fifteen copies of your comments by July 18, 1978, 4:30 p.m. All comments received will be available for public inspection in the ERA Reading Room, Room 2107, Federal Building, 12th and Pennsylvania Avenue, N.W., between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday.

Any information you consider to be confidential must be so identified and submitted in writing, one copy only. We reserve the right to determine the confidential status of the information and to treat it according to our determination.

B. Public Hearing.

1. Requesting Participation in the Hearing. The time and place for the hearing are indicated in the dates section of this preamble. If necessary to present all testimony, the hearing will be continued to 9:30 a.m. of the next business day following the date of the hearing.

If you have an interest in this matter or represent a group or class of persons that has an interest in the matter, you may write to request an opportunity to speak. Because of the time limitations involved in setting up the hearing, requests to speak may be telephoned until the day set forth in the dates section of the preamble. Please provide a phone number where you may be contacted through the day before the hearing.

If selected to speak you will be so notified by the ERA before 4:30 p.m., e.d.t., July 10, 1978 and must submit 50 copies of your statement to Public Hearings Management, Room 2214, 2000 M Street, N.W., Washington, D.C., before 9:30 a.m., e.d.t. July 12, 1978.

2. Conduct of the Hearing. We reserve the right to select the persons to be heard at this hearing, to schedule their respective presentations, and to establish the procedures governing the conduct of the hearing. The length of each presentation may be limited, based on the number of persons requesting to be heard.

An ERA official will preside at the hearing. This will not be a judicial or evidentiary-type hearing. Questions may be asked only by those conducting the hearing, and there will be no cross-examination. Each speaker will be given the opportunity, if he or she so desires, to make a rebuttal statement. The rebuttal statements will follow the conclusion of all initial statements, will be given in the order in which the initial statements were made, and will be subject to time limitations.

You may submit questions to be asked of any person making a statement at the hearing, to Public Hearings Management, ERA, before 4:30 p.m., e.d.t., July 11, 1978. If you wish to ask a question at the hearing you may submit the question, in writing, to the presiding officer. The ERA or, if the question is submitted at the hearing, the presiding officer will determine whether the question is relevant and whether time limitations permit it to be presented for answer.

The presiding officer will announce any further procedural rules needed for the proper conduct of the hearing.

A transcript of the hearing will be made and the entire record of the hearing, including the transcript, will be retained by the ERA and made available for inspection at the Freedom of Information Office, Room 2107, Federal Building, 12th and Pennsylvania Avenue, N.W., Washington, D.C., between the hours of 8:00 a.m. and 4:30 p.m.,, Monday through Friday. You may buy a copy of the transcript from the reporter.

Issued in Washington, D.C., June 26, 1978.

/s/
David J. Bardin
Administrator
Economic Regulatory Administration

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ENVIRONMENTAL ASSESSMENT OF THE EXEMPTION OF MOTOR GASOLINE FROM THE MANDATORY ALLOCATION AND PRICE REGULATIONS

I. Description of the Proposed Action

A. The Regulatory Action

The energy action being considered by the Economic Regulatory Administration of the Department of Energy (DOE) is the exemption of motor gasoline from 10 CFR Parts 210, 211 and 212. This exemption from allocation and price regulations would be proposed as an "Energy Action" under Section 12 of the Emergency Petroleum Allocation Act (EPAA), which was added to the EPAA on December 22, 1975, by the Energy Policy and Conservation Act (EPCA), Public Law 94-163. DOE has concluded that continued price and allocation controls on motor gasoline are no longer necessary to assure adequacy of supply, equitable prices or otherwise to meet the objectives of the EPAA. Therefore, DOE has prepared an Energy Action to exempt motor gasoline from controls. Similar proposals to exempt residual fuel oil, middle distillates, naphthas, gas oil, lubricants, greases and other specialty products, and naphtha-based jet fuel have already been made to Congress, and became effective after neither House of Congress disapproved within 15 days of submission. These exemptions became effective on various dates from June 1 through October 1, 1976.

On January 19, 1977, following a notice of proposed rulemaking (41 FR 51832, November 24, 1976) and public hearings, the Federal Energy Administration (FEA) issued two amendments exempting motor gasoline from 10 CFR Parts 210, 211 and 212, the General Allocation and Price Rules and the Mandatory Petroleum Allocation and Price Regulations (42 FR 4416 and 42 FR 4419, January 25, 1977). These amendments were transmitted to the Congress as Energy Actions Nos. 8 and 9 on January 19, 1977. However, prior to the close of the fifteen-day Congressional review period, President Carter determined that the motor gasoline exemption amendments required further consideration. Therefore, on January 24, 1977, the FEA issued a notice rescinding the January 19 amendments (42 FR 3036, January 27, 1977) and thereby withdrew Energy Actions Nos. 8 and 9 from the Congressional review procedure.

In the April 29, 1977 National Energy Plan, the President expressed his intention to examine the motor gasoline supply and demand situation with a view toward decontrolling motor gasoline at the end of the 1977 peak driving season. On August 9, 1977, the FEA gave notice (42 FR 40915, August 12, 1977) of a proposal to exempt motor gasoline from the Mandatory Petroleum Allocation and Price Regulations and a proposed Special Rule No. 4, a transitional motor gasoline assignment program which would remain in effect for the year following the proposed exemption of gasoline. The FEA invited public comments on the proposals through September 6, 1977, and held public hearings in Washington, D.C. and six other cities, on September 6, 7, and 8, 1977.

On October 1, 1977, section 301 of the Department of Energy Organization Act (DOE Act, Pub. L. 95-91) transferred to the Secretary of Energy the authority previously exercised by the FEA Administrator, including the authority to administer the regulations promulgated under section 4(a) of the EPAA and to exercise the decontrol authority under section 12 of the EPAA. Section 705(b) of the DOE Act continued unaffected the rulemaking proceedings pending before the FEA on October 1, 1977, including this motor gasoline exemption proceeding.

Section 402(c)(1) of the DOE Act provides that the Federal Energy Regulatory Commission (FERC) has jurisdiction to consider Energy Actions under the procedures specified in section 404 of the DOE Act. The FERC held a public hearing in Washington, D.C., on November 29 and 30, 1977 and accepted public comments through December 5, 1977. After completing its consideration of all the information available from these proceedings, the FERC concurred without qualification on March 29, 1978 in the proposal to exempt motor gasoline from both the Mandatory Petroleum Price and Allocation Regulations. In addition, the FERC concurred in the issuance of Special Rule No. 4 as modified in two respects from the August 9, 1977 proposal.

As a result of the completion of these procedures, the Secretary is now in a position to submit these motor gasoline exemption proposals to the Congress pursuant to section 12 of the EPAA.

This report, prepared in accordance with 10 CFR Part 208 regarding DOE's compliance with the National Environmental Policy Act, provides an assessment of the probable environmental impacts that could result from exempting motor gasoline from the DOE Mandatory Petroleum Allocation and Price Regulations. DOE assumes responsibility for verification that the implementation of the decontrol action proceeds as described in this Environmental Assessment.

B. Impacts on Supply, Demand and Price

1. DOE's General Conclusions

The supply, demand and price impacts of exempting motor gasoline from allocation and price regulations are assessed in Chapters IV and V of the report "Findings and Views Concerning the Exemption of Motor Gasoline from the Mandatory Petroleum Allocation and Price Regulations," dated September, 1977 (September Report). DOE has updated the information contained in the September Report in the Supplement which accompanies it. Both the September Report and the Supplement are incorporated by reference in this Environmental Assessment. All tables and charts contained in the Supplement bear the same identification number as their counterparts in the

September Report. All data presented in the two reports read together represent the most recent information available to the DOE in May 1978. Such additional data as has been received by DOE since then is not inconsistent with the data set forth in in the September Report and Supplement.

The conclusions reached in the September Report and the Supplement rest on analyses of: (1) the relationship between the production of motor gasoline and the production of other major fuels; (2) past trends and short-term forecasts of supply, demand and price of motor gasoline; (3) the market structure affecting motor gasoline and (4) the effects that other Federal agencies' regulations have on supply, demand and price of motor gasoline.

In both the September Report and the Supplement, DOE's basic conclusions are that (1) supplies of motor gasoline will be adequate to meet demand through 1979, and (2) the average price increase associated with decontrol will be small, amounting to less than one cent per gallon over what actual price levels would otherwise be, assuming competitive conditions will allow any increase at all. This increase would reflect the fact that under decontrol refiners would be allowed to recover in their prices a return on investment in additional or modified refining capacity needed to produce additional unleaded gasoline components to meet Environmental Protection Agency (EPA) lead phasedown standards, and to process additional volumes of heavy, high sulfur crude oil.

Because decontrol of motor gasoline and the removal of restrictions on realizing a return on investment would create a climate more conducive to expansion and modification of refinery capacity, it is expected that the supplies of gasoline in general and unleaded gasoline in particular should increase to some extent. The retrofitting of refineries would also permit the processing of cheaper crude oils.

In summary, most refiners continue to have large volumes of unrecovered or "banked" costs that could be passed through on gasoline, suggesting the total gasoline market at the refiner level is in equilibrium (Table IV-14). Average retail margins also continue below the amount allowed by regulations. Ample supplies and stocks of gasoline continue to exist, providing the basis for competition in the petroleum industry. The April 28, 1978 Lundberg Letter, a trade publication, indicates that the consumer price index published by the Bureau of Labor Statistics is running ahead of the national retail gasoline price index. All these factors suggest that competition, rather than price controls, is the principal factor in the marketplace restraining gasoline prices, and that, therefore, the removal of price controls should not cause a significant increase in the prices or decrease in supplies of motor gasoline. Indeed, to the extent that additional supplies of unleaded gasoline become available, this could cause downward competitive pressure on unleaded gasoline prices.

2. Supply/Demand Balance

In the Supplement, DOE made an effort to update the economic forecast upon which FEA's analysis of the viability of motor gasoline decontrol was based. The September Report relied on economic forecasts consistent with the President's overall economic targets, and appeared at that time to represent the most realistic "worst case" scenario of high motor gasoline demand in 1979. The CEASPIRIT (Data Resources, Inc.) forecast used in the analysis contained in the September Report reflected economic targets established in early 1977. The Supplement, however, updates the high demand "worst case" projection to reflect a supply/demand analysis performed by DOE's Energy Information Administration based on macroeconomic forecasts (Data Resources, Inc. OPTIMO325) which approximate the Council of Economic Adviser's more recent revised forecast of overall economic activity. As indicated in Chapter IV of the Supplement, DOE's revised motor gasoline and overall petroleum product projections using either OPTIMO325 or CEASPIRIT do not indicate a significant range of difference. The net result of all changes is to revise upward from 7.4 million barrels per day to 7.5 million barrels per day the demand forecast for motor gasoline in 1979. Total demand for all petroleum products in 1979 is also revised upward, from 20.4 to 20.7 million barrels per day. The demand projections using either OPTIMO325 or CEASPIRIT represent the Energy Information Administration's high estimates of the demand which could reasonably be expected in the event of motor gasoline decontrol. Somewhat lower demand projections would, in DOE's opinion, represent the "most likely" case.

In preparing the Supplement, DOE also reexamined factors which might influence the projected supply, demand and price of unleaded motor gasoline in the event of decontrol. The Supplement adds four additional tables to Chapter IV which assist this analysis. Table IV-24 compares the retail price for leaded and unleaded regular gasoline in 1975, 1976 and 1977. Table IV-25 compares retail dealer margins for leaded and unleaded regular gasoline in those years. Table IV-26 compares refining and distribution margins over crude costs for leaded and unleaded regular gasoline in those years. Table IV-27 projects the impacts of supply/demand balances on motor gasoline stocks.

With respect to the projected future supply of unleaded gasoline, DOE's revised analysis incorporates the impact of the EPA's waivers to the lead phasedown schedule. One of two alternate gasoline supply analyses presented in the September Report estimated that a shortfall of approximately 200,000 barrels per day could result in 1979, based on the assumptions that EPA would not grant waivers to its lead phasedown schedule and that the usage of lead in the production of gasoline in 1978 would therefore be reduced to 0.8 grams per gallon on the average for a refiner's total gasoline pool (See pages 90-96 of the September Report).

Although requests for waivers were pending at the time the September Report was prepared, the EPA had granted no waivers to refiners to its lead phase-down schedule. However, on November 30, 1977, the EPA testified before the FERC that it had begun granting waivers and expected to continue to do so. Presently waivers have been granted to refiners that produce approximately two-thirds of the nation's motor gasoline supply. According to the EPA the present average lead content of the entire motor gasoline pool is 1.3 grams per gallon.

Because the EPA has not altered the position it took in the November 1977 FERC hearings with respect to the granting of waivers, DOE believes that a most realistic "worst case" estimate of supply should be based on an average lead level at 1.2 grams per gallon --slightly below the current level -- until October, 1979.

An evaluation of gasoline supply at 1.2 grams per gallon results in a projected possible shortfall of 30,000 barrels per day in catalytic reforming capacity during the summer of 1979. However, DOE also projects that stocks of motor gasoline will be adequate through 1979 (Table IV-27) to ensure that total gasoline supply meets projected demand. A stock drawdown in the summer of 1979 to cover the production shortfall would not constrain petroleum industry marketing activities. Moreover, such a shortfall could also be met through product imports. At present, refineries located in several European countries could increase their production of unleaded gasoline available for export by approximately 60,000 barrels per day.

If, on the other hand, EPA were to revoke its waivers, the most recent Energy Information Administration estimate, based on the OPTIMO325 input, is that a shortfall of available catalytic reforming capacity of approximately 100,000 barrels per day could result in 1979 under the 0.8 gram per gallon scenario (not the 200,000 barrels per day projected in one alternative analysis in the September Report).* This shortfall could be made up in part by increasing imports and by utilizing reformers at greater than the 92 percent rate assumed in the DOE projections. Given EPA's most recent public position on waivers, DOE believes the likelihood of such a shortage occurring is remote. If a shortage were to occur, DOE has the standby authority to reimpose controls.

In any case, it should be noted that, whatever the supply/demand balance may be with or without EPA waivers, the balance would be the same whether or not price and allocation controls are eliminated. DOE's purpose in estimating the supply/demand balance in the *September Report* and the *Supplement* is to determine whether the objectives of the EPAA could be met in the near future if motor gasoline were decontrolled, and that in turn requires an estimate of whether motor gasoline will be in adequate supply. Extraneous factors, however, including possibly EPA's action on the timing of lead phasedown requirements, will ultimately influence the adequacy of supply, not DOE's action to decontrol. Therefore, to the extent that shortages of unleaded gasoline reforming capacity in 1979 -- a result that DOE believes is unlikely -- may have an adverse impact on the environment, it cannot be said that DOE's action to decontrol would be the cause of that adverse impact.

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* In these models, numbers less than 100,000 B/D are considered to be insignificant.

On the basis of the most recent information, DOE concludes that it is most likely that the supply of motor gasoline over the 1978-1979 period will be adequate and that exemption of motor gasoline from controls will not result in shortages either of motor gasoline or of other products. Even under a high demand forecast, domestic and worldwide refining capacity and crude oil supply will be adequate through 1979. With or without controls, the projected refinery capacity utilization will be above the 1977 level of 87.2 percent and in 1979 will be 90.8 percent. An analysis of imports and the yields of other products when refineries run at rates sufficient to meet motor gasoline demand indicates no supply problems with other refined products to ensure that total gasoline supply meets projected demand. A stock drawdown in the summer of 1979 to cover the production shortfall would not constrain petroleum industry marketing activities. Moreover, such a shortfall could also be met through product imports. At present, refineries located in several European countries could increase their production of unleaded gasoline available for export by approximately 60,000 barrels per day.

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* In these models, numbers less than 100,000 B/D are considered to be insignificant.

3. Price

a. Projected Overall Price Increases

Banked cost data submitted by refiners to DOE indicates that two large refiners had no banked costs in January 1978. These two refiners account for about 14 percent of total gasoline sales. A third refiner having about 3 per cent of the market had only a small bank. Gasoline banks for the other top 30 refiners were almost $1 billion in January 1978, which is approximately $100 million higher than banks in January 1977. The substantial banked costs of the refiners which supply most of the gasoline market indicate that refiners in general are not being constrained by the pricing regulations.

As previously noted, Chapter IV of the September Report and the Supplement indicates that price increases of not more than one cent per gallon could occur over time under decontrol to cover the additional cost of investment in refinery expansions and improvements in order to, among other things, produce unleaded gasoline. Investment costs, which are in part reflected in depreciation costs, will increase as refiners undertake the expansion of refining capacity needed to meet projected demand for all petroleum products and if they conform their refineries to the trend toward heavier, higher sulphur crude oil feedstocks.

Under current DOE regulations refiners can pass through increased unit (per gallon) depreciation costs, but not any allowance for a return on increased investment per gallon or any other unit investment costs. Since actual prices are currently well below the maximum levels allowed by regulation, most refiners could in fact today pass through some return on investment if competition in the marketplace permitted. However, in DOE's view, the price regulations have discouraged refinery additions. If gasoline is decontrolled, refiners would be assured of the opportunity to pass through any increased investment costs they are not now allowed to recover. This should also provide more incentive to expand and improve existing capacity. Although refinery modifications needed to meet EPA lead phasedown requirements are required to occur with or without controls, decontrol should increase the likelihood and pace of such expansions. Decontrol would only provide refiners with greater assurance that they can recover fully a return on their increased investment in such facilities.

It is important to recognize that even if gasoline prices are not decontrolled, certain rises in gasoline prices and other products as well will be caused by crude oil and refinery operating cost increases. Domestic crude oil costs will rise at the rate of inflation as allowed by provisions of the EPCA and the Energy Conservation and Production Act (ECPA). They could rise still further if Congress adopts the crude oil equalization tax. Refiners' operating costs can be expected to rise as the cost of labor, refinery fuel, and other supplies and services increases.

b. Leaded/Unleaded Price Differential

With respect to the price of unleaded gasoline, EPA has expressed concern that if, in the event of decontrol, the current differential between leaded and unleaded gasoline prices were to increase still further, it might cause an increased number of motorists to use leaded gasoline in cars designed for unleaded gasoline.

It should first be noted that DOE regulations do not currently contain any direct controls on the differential between leaded and unleaded gasoline prices.[1] Therefore, the decontrol of gasoline will not revoke any such existing restriction. But price controls on leaded and unleaded gasoline as separate products could in effect influence the differential if unleaded gasoline were at ceiling prices and leaded gasoline sold below ceiling prices.

It is not possible to predict from data obtained in a controlled market precisely what will occur in a decontrolled market. However, DOE has concluded on the basis of the data which is available that market factors other than price regulations are controlling unleaded gasoline prices at the retail level and that the leaded/unleaded differential will therefore not likely increase after decontrol:

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[1] Refiners that did not manufacture unleaded gasoline on the May 15, 1973, base date and hence did not have a base price upon which to add increased costs, were allowed to impute a base price for unleaded gasoline equal to their base period price for leaded gasoline of the nearest octane, plus one cent, to reflect the increased cost of producing unleaded gasoline. However, effective February 1, 1977, the regulations were amended to permit recovery of refiners' increased costs of producing gasoline without regard to the base period price differentials of the grades of gasoline produced.

-- Given that most refiners have substantial banked costs, it is clear that refiners are not being constrained by price controls. If retailers' margins were at maximum allowable levels so that they could not raise prices to market clearing levels, one of two phenomena would occur: (1) shortages would develop, as demand would be greater than supply at the constrained price; or (2) to optimize profits, refiners would raise prices to bring supplies in line with demand. Since supplies are adequate, and refiners have not been constrained from raising prices, DOE believes an equilibrium at both the refiner and retailer level currently exists.

-- The average maximum allowable margin for all gasoline is estimated to be 10.3 cents per gallon (determined by adding the 7.3 cents per gallon estimated to be the average dealer's May 15, 1973 margin, based on Platt's Oilgram price data, and the additional 3 cents per gallon maximum allowed by the regulations to cover increased non-product costs). The average actual margin in 1977 for full serve unleaded gasoline at the retail level is estimated to have been 9.8 cents per gallon (Table IV-25), and for self serve is estimated to be about 5.8 cents per gallon. Thus, the best available data on average dealer margins show unleaded gasoline to be selling from 0.5 to 4.5 cents below the maximums allowed by the regulations.

-- The average dealer margin of 9.8 cents for full-serve unleaded gasoline has decreased from 10.3 cents per gallon in the latter half of 1975 and 10.0 cents in 1976 (Table IV-25). Thus, the data show that the differential between actual full serve unleaded gasoline margins and allowable margins is increasing.

-- In February 1977 refiners were given greater flexibility to shift costs from leaded to unleaded gasoline and responded by increasing the dealer tankwagon price differential by 1.4 cents per gallon. Retail prices increased only 1.2 cents indicating inability, because of market constraints, for retailers to pass through the entire amount.

This information suggests that on the average unleaded gasoline prices are being controlled by market factors and not by DOE's price regulations.

Even if retail full serve unleaded gasoline margins were at regulatory allowable maximums (which would mean that retailers would be restrained from passing through all non-product costs increases and from increasing their full serve unleaded gasoline margins), upward pressure on full serve unleaded gasoline prices could be reduced to the extent that lower-priced self-serve unleaded gasoline is available and exerts downward competitive pressure. Latest available data (January 1978) indicate that self serve unleaded prices are about four cents per gallon lower than full serve unleaded prices.

In the longer term, DOE expects that decontrol will create a climate for increased investment in refinery modifications, including the installation of additional reforming capacity to manufacture volumes of unleaded gasoline beyond the amounts that will be required in any event by EPA regulations. To the extent such refineries investments are made, supplies of unleaded gasoline should increase beyond levels that would otherwise exist. If all other things remain equal, this will have a downward influence on unleaded gasoline prices, which in turn should tend to diminish the leaded/unleaded price differential. Over time, as the use of unleaded gasoline becomes more prevalent, DOE expects more vigorous price competition among refiners and marketers of unleaded gasoline than exists currently.

Although DOE is sensitive to the problem of fuel switching and the effect the leaded/unleaded price differential may have on it, the lead phasedown responsibility rests primarily with EPA. DOE's price regulations have been focused primarily on preventing unwarranted price increases resulting from shortages. EPA, on the other hand, has had the prime responsibility for enforcing the Clean Air Act. EPA has regulatory mechanisms intended to prevent significant environmental impact caused by damage to automotive catalytic converters caused by fuel switching. Fuel switching by owners of vehicles designed exclusively for operation on unleaded fuel is constrained by an EPA regulation (40 C.F.R. §80) which provides heavy penalties -- $10,000 per day -- for retailers who introduce or allow introduction of leaded gasoline into vehicles designed to use only unleaded gasoline on their premises.

Moreover, EPA has other options to encourage compliance with its regulations. EPA has indicated to the Federal Energy Regulatory Commission (43 FR 14,500, 14,501, April 6, 1978) that it is attempting to enforce its unleaded gasoline regulations by initiating an effort to prohibit removal of filler inlet restricters and by an educational campaign by retailers to notify motorists of retailers' legal liability. EPA could also seek new authority, if needed, to cause auto manufacturers to design and produce converter-equipped vehicles so as to make it more difficult for leaded gasoline to be used in them.

Currently, a joint EPA/DOE study is under way to determine the extent of fuel switching and whether price is a motivating factor. It is not expected that the study will shed much additional light on the issue of whether the differential will increase after decontrol. If it is determined from the joint study that current differentials are a motivating factor in substantial fuel switching, DOE will consider with EPA the appropriate remedies to prevent violations of EPA regulations.

At the refiner level, between the second half of 1975 and 1977, the average margin for unleaded gasoline increased 1.2 cents per gallon relative to the margin for leaded regular gasoline (Table IV-26). This 1.2 cents increase, however, can be attributed to a regulatory change designed to enable refiners to recover the higher costs of refining unleaded gasoline. In February 1977, refiners were granted flexibility to allocate cost increases freely within their total gasoline pool. Although refiners shifted 1.4 cents per gallon of costs on the average to unleaded gasoline after this change, they still did not, in general, increase unleaded gasoline prices to ceiling levels. As noted earlier, most refiners still have substantial unrecovered or "banked" costs attributable to gasoline that would presumably have been passed through to unleaded gasoline if competitive conditions would have allowed.

c. Regional Pricing and Supply Impacts

Inasmuch as amendments to the Mandatory Petroleum Price Regulations (41 F.R. 30021, July 21, 1976) have allowed refiners increased pricing flexibility to allow regional pricing of gasoline up to a differential of 3 cents a gallon, it is not expected that decontrol will cause significant regional impacts. However, concerns have been expressed by some commenters on DOE's motor gasoline decontrol proposal that temporary price adjustments or product shortages could occur at the regional or sub-regional level, because exempting suppliers from allocation controls might allow suppliers to withdraw from marginal marketing areas or to alter current marketing practices thus causing temporary sub-regional shortages or shifts in supplier/purchaser relationships.

A temporary supply protection program for marketers during the transitional year following the removal of controls has been included in DOE's decontrol proposal and should help to guard against the possibility of localized supply shortages. This will help ensure that no marketer of gasoline will lose its supply source without adequate time to arrange for a new supplier during the transitional period. The proposal permits marketers who have made unsuccessful efforts to obtain supplies of motor gasoline to be assigned as much as their previous allocation entitlement. DOE found that a similar program for middle distillates was a successful device following the exemption of those products from controls on July 1, 1976. Moreover, DOE has also received written informal assurances from 14 major refiners that in the event of motor gasoline decontrol, their base period purchasers would be assured of suppliers for one year after its effective date.

As long as supplies remain adequate, it is not anticipated that decontrol will result in any significant adverse impact on States, regions, or independent marketers. Indeed, the lifting of controls should result in increased new market entry that would protect consumers and preclude inequitable prices to any class of users.

d. Possibility of Reimposing Controls

If decontrol of motor gasoline is effectuated, DOE will institute a post-exemption system to receive and analyze information regarding both gasoline prices at retail levels (including leaded/unleaded differentials) and the relative market shares of different segments of the industry. If DOE's projections of limited supply and price impacts in its September Report and the Supplement should be contradicted by events, or if a general or geographical shortage were to occur, DOE would retain authority under the EPAA to reimpose controls and would do so if it were considered necessary in the circumstances.

DOE will also undertake a data collection and analysis system to ascertain the pre-decontrol (September 1978) leaded/unleaded price differential at full-service and self-serve retail outlets on a geographical and national basis. Such data shall be collected monthly for one year thereafter and made available to the public.

DOE will publish its findings within 8 months and again within 14 months after the decontrol action, which shall address the national and geographical trends in the price differential and assess the current situation with respect to fuel switching, including results of EPA studies and enforcement activities.

If at any time after decontrol, DOE determines that significant environmental impacts are occurring or are likely to occur as a result of decontrol, DOE will propose appropriate regulatory or other action which would have the effect of mitigating adverse environmental impacts.

II. Description of the Environmental Impacts

This environmental assessment is intended to determine the principal environmental impacts (beneficial and/or adverse) expected from the proposed action. The expected impacts are discussed below:

A. Water Quality

The September Report and Supplement project that exemption of motor gasoline from DOE controls will have insignificant impact on the overall price of or demand for gasoline. The two factors most likely to result in adverse impact on water quality would be increased domestic production or refinery throughput. Although refiners are subject to a preexisting legal duty to increase reforming capacity to comply with EPA requirements for reductions in the lead content of gasoline, decontrol is projected to improve the climate for increased refinery capacity expansion beyond mandatory levels. Since there is some flexibility on the part of refiners to pass through a return on such investments under present regulations, and because private corporate investment decisions are necessarily dependent on many variables, including planning schedules, financing capabilities, and state and local regulatory constraints, it is not possible to quantify exactly how much additional refinery construction will be the result of decontrol.

It is therefore not possible to predict the effect that the decontrol action would have on surface or ground water associated with increased refinery activity. In any event, any impact that might otherwise occur from refinery expansion or modification would be mitigated because most of the capital improvements expected to be made as a result of decontrol will be on property already dedicated to refinery uses and will be subject to stringent EPA and state and local requirements to assure the protection of existing water quality.

Supply projections indicate that the United States will become increasingly dependent on imported crude oil. The proposed exemption does not affect this trend. No change in the impacts on total tanker activity in the United States ports with its associated risk of oil spills will be attributable to decontrol.

DOE has found that limitations on domestic refining capacity may occasion an increase in motor gasoline imports in 1979 in order to maintain a supply-demand balance. An increase in gasoline imports could have an adverse impact on water quality. However, the projected shortfall in supply that would necessitate an increase in imports would occur whether gasoline were exempted from regulation or not. Consequently, the exemption of motor gasoline is not expected to have a significant impact on water quality.

B. Air Quality

As is indicated in the September Report and the Supplement, the proposed exemption of motor gasoline from DOE price and allocation regulations will not change significantly the supply, demand and usage of motor gasoline, nor will it change significantly domestic refinery production of petroleum products.

DOE's September Report and Supplement include a forecast that gasoline stock drawdowns during the peak demand period in 1979 will increase because of limitations on domestic refining capacity, as will imports of gasoline. Transfers to and from storage and from tankers are accompanied by evaporation losses and other pollution emissions which impact air quality adversely. However, as is true of the effect of increased imports on water quality, these stock drawdowns and imports would not be occasioned by decontrol but only by a necessity to meet increased demand. The environmental impact of these transfers is therefore not attributable to this decontrol action.

DOE's analysis attributes a possible gasoline price increase of one-half to one cent per gallon overall as a result of increased refinery investment caused by this action. Using the estimated demand elasticity of -.15 in the September Report, this price increase would dampen demand by about 20 MB/D. Such a demand decrease would have some beneficial impact on air quality by reducing total vehicular emissions. However, a demand change of 20 MB/D is well within the range of error in the model used by the Energy Information Administration to forecast demand. In this model, variations of less than 100 MB/D are statistically insignificant.

DOE does not believe that any significant demand change can be attributed to the proposed actions and, in turn, does not foresee any significant adverse or beneficial environmental impacts associated with the proposed action in regard to air quality.

As noted above, it is impossible to quantify the amount of refinery expansions or modifications, if any, that could be attributable to decontrol. Many such expansions or modifications would be to existing refineries located in areas subject to the offset policy imposed by recent amendments to the Clean Air Act and EPA regulations (42 USC 7501 *et seq.*). In such cases any increased emissions would have to be more than offset by reductions in emissions in the same geographical area. Thus, DOE concludes that refinery expansions or modifications caused by decontrol are not likely to have a significant impact on air quality.

A third air quality issue raised by decontrol is the effect, if any, of decontrol on fuel switching. Continued use of leaded gasoline in a car equipped with a catalytic converter contaminates the converter and renders it ineffective in reducing automotive exhaust emissions. EPA studies indicate that as few as two or three tankfuls of leaded gasoline in a car equipped with a catalytic converter renders the converter ineffective, with minimal regenerative capability. Because converters, when operating at full efficiency, substantially reduce emissions, an increase in the incidence of fuel switching would result in a proportionately greater increase in the adverse impact on ambient air quality. As the previous discussion in section 3 above (together with the portions of the September Report and Supplement cited therein) indicates, DOE does not project that decontrol will increase gasoline prices by more than one cent. Furthermore, DOE, as noted above, has concluded that the differential between the price of leaded and unleaded gasoline will not likely increase as a result of decontrol. It therefore concludes that decontrol is unlikely to have any significant effect on automobile emissions.

Further, it must be reiterated that a change in the differential alone does not result in a change in air quality. In the event that the differential would increase to a level that presented an economic encouragement to switch fuels, EPA regulations such as those imposing severe civil penalties should directly prohibit this possible consequence. The ongoing DOE/EPA study referred to above will identify areas of enforcement deficiency, if any exist, and suggest models for more efficient compliance programs. Moreover, if decontrol in fact causes price changes which in turn encourage fuel switching which is not adequately dampened by other factors, DOE will be prepared to initiate some appropriate form of price controls.

For all of these reasons, DOE concludes that decontrol of motor gasoline is unlikely to make a significant environmental impact due to increased stationary or mobile source pollution.

C. Noise

For the reasons stated above, the proposed exemption of motor gasoline from DOE price and allocation regulations will not change motor vehicular usage significantly. Therefore, the exemption proposal will not have a significant impact on noise.

D. Land Use

For the reasons discussed aboved at II. A, DOE projects no significant changes in refinery construction activities will result solely from this action. Therefore, no land use factors are projected to be involved. To the extent there are refinery expansions or modifications, they will mainly be on land already dedicated to refinery uses. Accordingly there should be no significant environmental impacts related to land use.

E. Socioeconomic Impacts

DOE's supply-demand analysis in Chapter IV of the *September Report* and *Supplement* predicts no motor gasoline supply shortage in either 1978 or 1979 since stocks and imports will be available to deal with the possibility that peak demand may temporarily exceed supply on a daily basis. It also points out that an average price increase in motor gasoline of up to one cent per gallon could result over time from decontrol.

DOE's calculations indicate that a one-cent per gallon increase in the gasoline price in 1978 and 1979 yields an insignificant impact on the gross national product (GNP) real personal income and employment levels in the nation. As a result, there are no significant socioeconomic impacts resulting from the proposed action. For a more thorough examination of how exemption of motor gasoline affects the economy see Chapter V of the September Report and Supplement.

III. Alternatives

There are five basic alternatives to the proposed action: no action; exemption of motor gasoline from price controls only; exemption of motor gasoline from allocation controls only; maintenance of price controls on unleaded gasoline; and decontrol accompanied by regulation of the leaded/unleaded price differential. Following is a discussion of each of the alternatives.

A. No Action

The supply and demand forecasts contained in the September Report and Supplement are based on the assumption that controls will continue (*i.e.*, no action). Therefore, "no action" represents the base case from which the previous analyses depart. As noted above, there is no significant difference in impact on the environment between the decontrol alternative and the no action alternative.

B. Exemption from Price Controls Only

This alternative is programmatically remote because exemption from price controls only would thwart the continuation of allocation controls. Suppliers that preferred not to supply a purchaser to whom they have an allocation obligation could use the exemption from price controls to engage in pricing practices designed to discourage their customers from exercising their allocation rights. Such pricing practices would result in widespread market distortions, economic inefficiencies and interference with normal market mechanisms. DOE is constrained by law to ensure that these consequences do not arise. Because DOE does not foresee any supply shortfalls or significant price increases in motor gasoline due to the proposed action, exemption from price controls only does not coincide with the objectives of DOE and is not a realistic alternative.

C. Exemption From Allocation Controls Only

This alternative would not be accompanied by any changes in supply or demand.

However, the release of motor gasoline from allocation controls along with the retention of price controls could result in some shifting of supply on a sub-national basis. Firms would be inclined to withdraw from certain market areas which may be uneconomical or otherwise unattractive but which allocation controls compel them to serve if they were not permitted to price product in that market at an economically realistic price. This could result in temporary, short-term supply distortions of gasoline in certain remote markets, and these could entail minor, unpredictable economic and environmental impacts. Overall there would be no net economic change because neither total supply nor total demand would be affected.

However, sub-national deviations are speculative and no data exists to predict that they would occur. Normally, if there is a demand, some entity will satisfy that demand as long as there is no overall supply shortage. In addition, presumably the elimination of allocation controls only would be accompanied by the adoption of something like Special Rule No. 4, which, as noted above, would help to ameliorate any localized supply shortages that would otherwise result from removal of allocation regulations.

In any event, this alternative is basically undesirable from the point of view of DOE policy objectives. Since no economic or environmental benefits can be discerned, it is not being proposed.

D. Maintenance of Price Controls on Unleaded Gasoline

As described above, there is no provision in the current pricing regulations which prescribes a price differential between leaded and unleaded gaasoline, and both leaded and unleaded gasoline are currently selling below maximum allowable levels. Thus, in our view the continuation of controls on either leaded or unleaded gasoline or both will not have a significant effect on the leaded/unleaded price differential.

The evidence does suggest, however, that unleaded gasoline is selling at prices closer to maximum allowable levels than leaded gasoline (especially in the case of unleaded full-serve gasoline, which is 0.5 cent per gallon below maximum allowable prices). It has been suggested, therefore, that the maintenance of price controls on unleaded gasoline only would assure that the leaded/unleaded differential would not increase if, due to unforeseen circumstances, gasoline prices in general should increase at a rate beyond that which is cost justified. (While alternatives could be framed which would retain controls for only refiners or only retailers, DOE believes that this alternative should probably include the maintenance of price controls on unleaded gasoline for both refiners and retailers because unforeseen price increases could occur at either level.)

DOE considered the alternative of imposing controls on unleaded gasoline only and has decided not to adopt it for the following reasons:

- When only one of two somewhat interchangable products is controlled, distortions are likely to occur. For example, it could restrain the supply of unleaded gasoline, encourage an increase in the supply of leaded gasoline, and thereby force down the price of leaded gasoline at both refiner and retail levels relative to unleaded, thus widening the differential.

- On the other hand, refiners might not provide adequate supplies of leaded gasoline relative to demand, in which case refiners and retailers might have an incentive, depending upon future demand, to increase the price of leaded gasoline significantly to make up for the potential loss in revenue due to controls on unleaded gasoline. While this would reduce the leaded/unleaded price differential, both refiners and retailers may also increase leaded gasoline prices, which could have inflationary and other adverse economic impacts of the type warned against by the Council on Wage and Price Stability in its comments to the FERC.

- Although the DOE believes that investments in facilities to make at least the minimum levels of unleaded gasoline required by EPA regulations will occur under present controls, any tendency to exceed these minimum levels, or perhaps even to comply fully with present minimum requirements, would be discouraged by this alternative. The interjection of a completely new form of regulatory restraint (which would be the case if price controls were retained on one grade but not on another) would create investment uncertainties and cause the reevaluation of investment plans.

- Since some refining companies (especially those which make an unleaded premium grade) manufacture proportionately more unleaded gasoline than other firms, this alternative creates the threat of competitive dislocations, because such firms would have a larger percentage of their product under price controls and correspondingly less flexibility in the allocation of product and non-product costs. The effects would also be felt disproportionately in different regions of the country, since unleaded gasoline as a percentage of total gasoline sales varies substantially in different States.

E. Decontrol Accompanied by a Rulemaking Regulating the Leaded/Unleaded Price Differential

This option is similar to the alternative D above. Implementation of alternative E could begin at the same time as decontrol to prevent increased fuel switching from occurring as a result of widening leaded/unleaded price differentials. Unlike the retention of price controls on unleaded gasoline only, a regulation controlling the differential would require a separate rulemaking proceeding, complete with independent environmental review. Direct regulation of the price differential could include such measures as freezing the differential at the levels existing when decontrol becomes effective or mandating maximum differentials.

DOE rejected direct regulation of the leaded/unleaded price differential at this time for the same reasons it decided not to retain price controls on unleaded gasoline only. Freezing the existing differential or imposing a maximum differential on any other basis could cause inequitable prices and competitive dislocations. Such differential levels would represent an arbitrary requirement imposed upon a market in a state of flux. Thus, it may be anticipated that certain refiners and retailers will be affected more severely than others by such an action. In addition, setting a maximum price differential could be inflationary and result in the raising of leaded gasoline prices.

Either of the two possible regulations would require DOE to retain a monitoring system to enforce the regulation. This would entail substantial administrative costs and increased paperwork which decontrol would otherwise reduce.

Because of the potential market perturbations which this alternative might cause and because DOE has not explored and analysed the other possible economic and environmental impacts of controlling price differentials, DOE does not now consider it feasible to regulate the leaded/unleaded price differential.

IV. Conclusion

The proposed decontrol actions will not have a significant impact on the environment in any respect, including the matter of unleaded gasoline. Demand for unleaded gasoline grows and demand for leaded gasoline declines as the vehicle fleet and its fuel uses change in response to consumer preferences and environmental requirements. The substantial, continuing shift in demand tends to make for relative tightness of unleaded gasoline supply and relative abundance of leaded gasoline supply. Competing dealers therefore cut leaded gasoline prices below DOE ceilings more aggressively than they cut unleaded prices. So competition tends to widen leaded-unleaded differentials in the present supply circumstances.

We need increased supplies of unleaded gasoline for the sake of the consumer, the environment, the economy. To shift output from leaded to unleaded requires more and more refinery reconfiguration. Retaining the present price and allocation controls on motor gasoline will not advance the objective of producing more unleaded gasoline. Removing those controls is actually more likely to help realize that objective (in conjunction with other factors). In any event, DOE will not frustrate the realization of any environmental objective by switching -- from active to standby -- the status of the outmoded controls inherited from a past emergency.

APPENDIX 2

July 12, 1978

MSED OBSERVATION OF FUEL SWITCHING[1]
CUMULATIVE

Region State	Total[2] Vehicles Observed	Total Confirmed Leaded	Total Confirmed Unleaded	Total Confirmed Violations	Percent Violation Rate	Number of Violations at[3] Each Price Differential and Type of Service[4]
NORTHEAST						
Connecticut	111	76	27	1	4%	1/ 8 cents SS
Delaware	141	96	25	2	8%	1/ 4 cents SS, 1/ 8 cents FS
Vermont	146	99	32	2	6%	1/ 3 cents FS, 1/ 5 cents FS
New Hampshire	90	50	16	4	25%	3/ 4 cents FS, 1/ 5 cents SS
New Jersey I	93	60	16	0	0%	
New Jersey II	81	47	20	3	15%	1/-2 cents FS, 2/ 9 cents FS
Massachusetts	134	85	18	3	17%	1/-3 cents SS, 1/ 4 cents FS 1/ 7 cents FS
New York	78	DATA NOT CONFIRMED BY STATE TO DATE				
Rhode Island	84	DATA NOT CONFIRMED BY STATE TO DATE				
Maine	109	54	31	3	10%	3/ 4 cents FS
REGION TOTAL	1067	567	185	18	9.7%	
SOUTHEAST						
Alabama	54	30	5	1	20%	1/ 3 cents FS
Florida	134	DATA NOT CONFIRMED BY STATE TO DATE				
Georgia	81	51	10	3	30%	2/ 4 cents FS, 1/ 6 cents FS
Maryland	265	68	15	1	7%	1/ 5 cents FS
N. Carolina	106	74	15	4	4%	2/ 3 cents SS, 2/ 4 cents SS
S. Carolina	126	83	31	1	3%	1/ 3 cents FS
Tennessee	106	63	23	2	9%	2/ 4 cents SS
Virginia	189	88	43	6	14%	4/ 4 cents FS, 2/ 6 cents SS
Washington, D.C.	84	DATA NOT CONFIRMED BY STATE TO DATE				
REGION TOTAL	1145	457	142	18	12.7%	

DRAFT

MSED OBSERVATION OF FUEL SWITCHING[1]

CUMULATIVE

Region State	Total[2] Vehicles Observed	Total Confirmed Leaded	Total Confirmed Unleaded	Total Confirmed Violations	Percent Violation Rate	Number of Violations at Each Price Differential[3] and Type of Service[4]
MIDWEST						
Indiana	136	76	31	5	16%	1/ 3 cents FS, 2/ 5 cents SS, 1/ 10 cents SS
Illinois	79	DATA NOT CONFIRMED BY STATE TO DATE				
Iowa	47	17	8	1	13%	1/ 3 cents SS
Kentucky	111	DATA NOT CONFIRMED BY STATE TO DATE				
South Dakota	96	49	26	3	12%	1/ -1 cents SS, 1/ 2 cents SS, 1/ 4 cents SS
Ohio	138	92	19	2	11%	1/ 3 cents SS, 1/ 4 cents FS
Michigan	109	63	33	2	6%	2/ 3 cents SS
Minnesota	169	115	36	4	11%	2/ -1 cents FS, 2/ 3 cents FS
Nebraska	99	57	13	2	15%	1/ 3 cents FS, 1/ 3 cents SS
Missouri I	52	37	9	0	0%	
Missouri II	52	DATA NOT CONFIRMED BY STATE TO DATE				
Wisconsin		DATA NOT CONFIRMED BY STATE TO DATE				
REGION TOTAL	1088	506	175	19	10.9%	
SOUTHWEST						
California I	153	108	21	0	0%	
California II	226	132	61	9	14%	2/ 2 cents FS, 1/ 3 cents FS 3/ 5 cents SS, 3/ 8 cents FS
Colorado	172	110	29	1	3%	1/ 4 cents FS
Arkansas	67	35	16	4	25%	1/ 2 cents FS, 1/ 4 cents FS 2/ 4 cents SS
Texas I	314	229	55	2	4%	1/ 3 cents SS, 1/ 5 cents SS
Texas II	70	48	20	3	15%	2/ 6 cents FS, 1/ 11 cents FS
Utah	131	81	36	4	11%	1/ -1 cents SS, 2/ 3 cents FS 1/ 4 cents SS
New Mexico	55	31	12	1	8%	1/ 4 cents FS
Oklahoma	120	DATA NOT CONFIRMED BY STATE TO DATE				
REGION TOTAL	1308	774	250	24	9.6%	

DRAFT

MSED OBSERVATION OF FUEL SWITCHING[1]
CUMULATIVE

Region State	Total[2] Vehicles Observed	Total Confirmed Leaded	Total Confirmed Unleaded	Total Confirmed Violations	Percent Violation Rate	Number of Violations at Each Price Differential[3] and Type of Service[4]
NORTHWEST						
Idaho	92	64	12	1	8%	1/ 3 cents SS
Washington	98	63	13	2	15%	1/ 3 cents FS, 1/ 4 cents FS
Wyoming	85	51	10	1	10%	1/ 3 cents SS
Oregon	91	66	13	1	8%	1/ -2 cents FS
Montana	39	33	4	0	0%	
REGION TOTAL	405	277	52	5	9.6%	
NATIONAL TOTALS	5013	2581	804	84	10.45%	

NOTES

1. Observations were designed to obtain data from different states, regions of the country, and price differentials between leaded and unleaded at individual stations. The cars were divided into three categories: requires unleaded gasoline (unleaded), does not require unleaded gasoline (leaded), and insufficient information available (undetermined). The classifications were based on observers' notes, vehicle identification numbers obtained from State Motor Vehicle Department records through license plate numbers, and information obtained from automobile manufacturers.

2. Total vehicles observed = Total confirmed leaded + Total confirmed unleaded + Undetermined

3. Price differential = Unleaded cost - grade used cost (at the same type of service), a negative differential meaning a higher priced leaded premium was used. During the early stages of the survey the type of leaded gasoline used, regular or premium, was not noted, hence these differentials reflect the difference of unleaded and leaded regular at the same type of service.

4. SS = Self Service, driver pumped gasoline
FS = Full Service, attendant pumped gasoline

DRAFT

ANALYSIS OF VIOLATIONS

1. Grade of Fuel Switched to: Regular 42; Premium 7; Not Known 35

2. Violation rate by the type of service: Self Service 10.08%
Full Service 10.75%

3. Price Differential:

Price Differential:	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Violations at Differential:	0	0	0	1	2	4	0	0	4	22	27	9	5	1	5	2	1	1	0	0
Possible Choice of Driver:	13	3	39	89	226	247	27	4	114	289	255	105	84	42	35	18	31	5	2	5
Percent Violation Rate:	0	0	0	1.1	0.9	1.4	0	0	3.5	7.6	10.6	8.6	6.0	2.4	14.3	11.1	3.2	20.0	0	0

NOTES

1. During the latter part of the survey the observers noted the grade of fuel used by each automobile. Out of the 49 violations in which the grade switched to was recorded, 42 (86%) switched to a lower priced leaded regular while 7 (14%) switched to a higher priced premium gasoline.

2. Type of service was either self-service where the driver pumped the gasoline or full-service where the attendant pumped the gasoline.

3. Price differentials refer to the differentials a driver would see as he drove into a station. The differential is computed as (Unleaded Cost - Leaded Cost), at the same type of service, for both leaded regular and leaded premium.

"POSSIBLE CHOICE OF DRIVER" refers to the number of unleaded vehicle drivers faced with each differential as they pull into a station. Since a station may carry more than one grade of leaded gasoline at either self or full service it is possible for drivers to see more than one differential when they pull into a station.

"PERCENT VIOLATION RATE" is the number of violations at each differential divided by the number of drivers of unleaded vehicles faced with that differential, times 100.

$$\text{Violation Rate} = \frac{\text{Violations at Differential}}{\text{Choice at Differential}}$$

DRAFT

APPENDIX 3

FE-1394
Environmental Activities Staff
General Motors Corporation
General Motors Technical Center
Warren, Michigan 48090

July 7, 1978

Mr. Benjamin R. Jackson, Acting Chief
Mobile Source Enforcement Division (EN-340)
U.S. Environmental Protection Agency
Waterside Mall 4th & M Streets, S. W.
Washington, D. C. 20460

Dear Mr. Jackson:

Due to the recent concern on the part of the Environmental Protection Agency over apparent misfueling practices by some owners of catalyst equipped vehicles, General Motors has conducted a study in six states of fueling practices at self-service stations on 1975 and later model year GM vehicles. A copy of the final report on this survey is attached for your information.

We share EPA's concern over the potential adverse effects of leaded fuel usage on the performance and durability of our emission control systems and consequent air quality impact. We understand that the EPA is interested in determining the reasons for misfueling by consumers. Due to the apparent relevance of fuel price differentials to misfueling, our fueling survey also examined the relative leaded and unleaded fuel prices at each of the 24 gas stations surveyed, and the results of our analysis are contained in the report. The question of the potential effect of fuel octane requirement on misfueling rate has also been raised in recent discussions. To put the subject of vehicle octane requirement in better perspective we have also attached a copy of a recent statement by General Motors to the Chicago Department of Consumer Sales, Weights and Measures.

We hope that the attached information will improve your understanding of the misfueling problem.

Very truly yours,

T. M. Fisher, Director
Automotive Emission Control

APSH:rtb
cc: M. B. Durning

GENERAL MOTORS CORPORATION

FUEL USAGE SURVEY

INTRODUCTION

The objective of this survey was to determine leaded fuel usage in 1975-1978 catalyst equipped General Motors vehicles.

The method used to obtain this information was through direct customer contact at self-service gas stations. Direct customer contact was felt necessary to positively identify catalyst equipped vehicles.

A sample size of approximately 200 vehicles per geographic area (50 vehicles at each of 4 service stations) and six major geographic areas for a total sample size of 1208 vehicles was obtained.

SUMMARY

Twelve hundred and eight 1975-1978 General Motors catalyst equipped vehicles were observed refueling in the urban areas of:

Seattle, Washington
Denver, Colorado
Dallas, Texas
Chicago, Illinois
Detroit, Michigan
New York, New York

Twenty four of the vehicles (1.99%) were observed refueling with leaded fuel. Evaluated in terms of a 90% confidence interval, the estimated population proportion ranges between 1.33% and 2.65%.

Table 1 is a summary of the results in terms of city, division model year, odometer and driver. Of the confidence interval comparisons shown in Table 1, only the proportion for the 1975 model year indicates a potential trend in terms of increased use of leaded fuel.

The distribution of the type fuel used and the price differential for all cities and all stations surveyed is shown in Table 2. In all stations where the survey was conducted, leaded regular gasoline was priced lower than unleaded regular. The price differential ranged from 2 cents per gallon to 8 cents per gallon. The average price differential was 4.04 cents per gallon. No statistically supportable relationship was determined relating the number of leaded fuel users to fuel price differential.

Table 3 summarizes the 24 occurrences of leaded fuel usage by city and model year. Also included on Table 3, are the observed conditions of the filler neck restrictors for vehicles where observation was possible. The modified restrictors were either enlarged, cut, or bent to allow use of the larger regular fuel nozzle.

TEST PROGRAM

Sample Plan

Considerations in developing the sample plan were:

A. Sample Size Determination
B. Geographic Areas
C. Station Selection
D. Station Manager Contact and Approval

A. Sample Size Determination

Binomial distribution theory was the basis for determining a sample of approximately 1200 vehicles. To obtain a sufficiently large sample at each individual location, a goal of 50 cars per service station, 4 service stations per city or geographic area and 6 major geographic areas was established. To reduce the possibility of encountering repeat customers, a maximum of three working days were spent at any one location. A maximum of one week was spent in any one urban area. The goal of 50 vehicles per station was not met in 6 cases, was exceeded in 8 stations and was met exactly in 10 stations.

B. Geographic Areas

Six urban areas sampled were:

Geographic Area	Urban Area
Northwest	Seattle, Washington
West	Denver, Colorado
Southwest	Dallas, Texas
Mid-West	Chicago, Illinois
Mid-West	Detroit, Michigan
East	New York, New York

These urban areas were selected since they are geographically dispersed, represent large population centers and represent various climatological conditions. Denver was chosen because of its altitude. California was excluded from this survey since the California Air Resources Board had recently conducted a similar survey on fuel switching entitled, "Vehicle Fuel Switch Survey" dated January, 1978.

C. Station Selection

The survey was conducted at total self-service and split-island self-service stations. Twenty total self-service and four split-island self-service stations were surveyed. Full service stations were not observed. Secondary outlets such as convenience stores, "mom and pop" stores, and parking garages selling gas were not surveyed. Several factors were considered when selecting stations:

1. Volume

Because of time constraints, a major influence in station selection was station volume. Station volume appeared to be affected primarily by price and price relationship to nearby service stations. Other factors seemingly influencing volume were traffic patterns near the station, ease of entry to and exit from the station, size, night lighting, cleanliness and overall appearance, and incentives such as low cigarette prices. For the 24 stations surveyed, the average volume of cars through a station was 41 cars per hour ranging from 11.4 to 72.2 cars per hour. The distribution of vehicle volume for all stations observed is shown in Figure 1.

2. Location

Attempts were made to uniformly distribute the four survey sites within an urban area. Consideration was given to (a) downtown, (b) industrial, (c) suburban business, shopping center and residential areas.

(a) Downtown

Downtown stations were generally full service only, small in size, secondary outlets connected with parking facilities and significantly higher in price. Downtown areas of the major metropolitan cities were not observed.

(b) Industrial

Industrial areas generally resulted in a high volume of older cars, primarily second and third family cars used as transportation to and from work. Such stations service few late model catalyst equipped GM vehicles.

(c) Suburban Business, Shopping Center and Residential

These areas seemed to have the majority of the total self-service and split-island self-service stations. A significantly greater proportion of late model vehicles were observed in these locations. The majority of the survey was conducted in these type stations.

3. Brand of Gasoline

It was observed that the major, nationally known brands have primarily full service or split-island service stations. Total self-service stations tended to have less well known brand names. Attempts were made to sample a mixture of brands, especially in each individual urban area if possible. Fourteen different brands were represented in the survey.

4. Price Differential

The price differential distribution is shown in Figure 2 and summarized by station in Table 2. No attempt was made to maximize or minimize price differential when selecting stations for the survey.

Figure 3 is a distribution of the leaded fuel user occurrences as a function of price differential. Figure 4 is a plot of the proportion of leaded fuel users as a function of price differential with the corresponding 90% confidence intervals for each proportion. The percentages of Figure 4 are determined by dividing the number of leaded fuel users at each price differential by the total sample of customers where this price differential existed. The relationship of Figure 4 may indicate a potential relationship of increased leaded fuel usage with price differential, but because of small sample sizes results are inconclusive.

Figures 3 and 4 considers only the leaded fuel users where a price advantage was realized (21 occurrences). Three of the total 24 leaded fuel users and 15 other customers chose to pay more than the cost of unleaded regular by using leaded premium (3 cases) or unleaded premium (15 cases). This total of 18 cases or 1.49% accepting a price disadvantage is of a magnitude similar to the 1.99% of observed leaded fuel users.

D. Station Manager

The survey was conducted only at stations where the station manager gave permission to GM to conduct the survey. The purpose of the survey was explained showing the information sheet (Figure 5). A listing, by city, of stations willing to participate is shown in Table 4.

CONDUCTING THE SURVEY

A. Time

The survey was conducted from Monday through Saturday between the hours of 8:00 a.m. to 9:00 p.m. The busiest time period for the stations occurred during the late afternoon and early evening from 4:30 p.m. to 7:00 p.m.

B. Customer Contact and Participation

Prior to initial customer contact, the survey observer was either sitting in a car in the station, standing inside the station office, or standing outside but never at the pump islands. All attempts were made to appear inconspicuous in order to not affect customer buying habits. Since only late model GM vehicles were surveyed and only approximately 1 in 8 vehicles qualified (9585 vehicles) observed for 1208 GM catalyst equipped vehicles surveyed), it is felt the presence of observers directly contacting customers has little affect on buying habits. Customers at self-service islands were generally observed to be in a hurry and preoccupied with their own refueling operation. In instances where customers had to wait for a pump to become available and a customer was being interviewed, the survey observer presence was obviously noticed, but the waiting customer still had no knowledge of the activity taking place until he was actually approached and contacted.

Customers were approached and contacted only after refueling had actually commenced (i.e., the pump nozzle in the tank fill pipe and fuel actually flowing into the tank). The following type of information was discussed with each contact.

1. The survey observer was an employe of General Motors Corporation. The employe pass was either visibly worn or shown if the customer requested proof.

2. The information sheet (Figure 5) was shown while the customer was told the purpose of the survey as stated on the information sheet.

3. Permission was asked to record:

    (a) the first six digits of the Vehicle Identification Number to allow model and engine identification

    (b) the type of fuel added

    (c) the amount of fuel added

    (d) the fuel gauge reading after refueling

(e) the odometer reading

4. Total time required would be less than a minute, data would be recorded before the customer was finished refueling, and data could be obtained from outside the vehicle through the windows. Where possible, the condition of the restrictor was also observed during refueling.

Customer response, using the above approach was excellent with only 1.3% (16 of 1210 contacts) refusing permission to obtain the requested information. However, it was possible to observe the fuel usage and model identification for 14 of those 16 customers. A detailed summary of customer participation is shown in Table 5.

TABLE 1
SUMMARY OF RESULTS

City					90% Confidence Interval
Detroit	5	of	243	2.06%	.56% - 3.56%
Chicago	2	of	200	1.00%	.0 % - 2.16%
Dallas	5	of	203	2.45%	.66% - 4.24%
Denver	3	of	188	1.60%	.10% - 3.10%
Seattle	7	of	180	3.89%	1.52% - 6.26%
New York	2	of	194	1.03%	.0% - 2.22%
	24		1208		
Division					
Chevrolet	13	of	622	2.09%	1.15% - 3.03%
Pontiac	4	of	184	2.17%	.40% - 3.94%
Oldsmobile	3	of	191	1.57%	.09% - 3.05%
Buick	2	of	160	1.25%	.0 % - 2.70%
Cadillac	2	of	51	3.92%	.0 % - 8.39%
	24		1208		
Model Year					
1975	13	of	250	5.20%	2.89% - 7.51%
1976	7	of	343	2.04%	.78% - 3.30%
1977	3	of	404	.74%	.04% - 1.44%
1978	1	of	205	.49%	.0 % - 1.29%
	24		1202*		

*Differs from previous total of 1208 and 24 because data not observed - customer non-participation.

Table I, cont'd

Average Odometer (Vehicles)

	Total Sample		Leaded Fuel Users	
1975	41639	(250)	41041	(12)
1976	30699	(343)	40574	(7)
1977	15140	(404)	14689	(3)
1978	3810	(205)	3165	(1)
		1202*		23

Drivers

Male	935	(77.4%)	21	(87.5%)
Female	273	(22.6%)	3	(12.5%)
	1208		24	

*Differs from previous total of 1208 and 24 because data not observed - customer non-participation.

4APSH/0623/1a
6/27/78

TABLE 2

DISTRIBUTION OF SAMPLE, FUEL USAGE AND PRICE BY STATION

City	Station No.	Total Cars Thru Station	Test Sample 75-78 GM	Fuel Usage			
				Unleaded		Leaded	
				Reg	Prem	Reg ( )**	Prem ( )**
Detroit	1*	250	48	31	15	2 (4¢)	-
	2*	74	12	12	-	- (8¢)	- (-2¢)
	3	325	51	50	-	1 (4¢)	-
	4	396	65	65	-	- (4¢)	-
	5	238	67	65	-	2 (4¢)	-
Chicago	1	292	50	48	-	1 (8¢)	1 (-2¢)
	2	279	50	50	-	- (4¢)	- (-2¢)
	3	177	50	50	-	- (4¢)	-
	4	245	50	50	-	- (4¢)	- (-3¢)
Dallas	1	247	50	49	-	1 (3¢)	- (-2¢)
	2	275	50	47	-	3 (5¢)	- (-2¢)
	3	230	43	42	-	1 (2¢)	- (-2¢)
	4*	179	60	60	-	- (5¢)	- (-2¢)
Denver	1	464	53	53	-	- (2¢)	- (-1¢)
	2	355	50	48	-	2 (3¢)	-
	3*	404	35	35	-	- (3¢)	- (-5¢)
	4	478	50	49	-	- (3¢)	1 (-5¢)
Seattle	1	702	50	50	-	- (3¢)	- (-3¢)
	2	968	50	47	-	2 (4¢)	1 (-2¢)
	3	942	59	56	-	3 (4¢)	- (-1¢)
	4	349	21	20	-	1 (5¢)	- (-2¢)
New York	1	464	71	71	-	- (2¢)	- (-4¢)
	2	819	92	91	-	1 (4¢)	- (-4¢)
	3	433	31	30	-	1 (5¢)	- (-2¢)
	24	9585	1208			21	3

Total No. Leaded Fuel Users (24)

* Stations offering both full and self service. All others are self service only.

( )** is stated as the price advantage (in cents) gained by switching from unleaded to leaded fuel. Leaded premium in all instances was more than unleaded regular and is therefore shown as a price disadvantage.

TABLE 3

DISTRIBUTION OF LEADED FUEL USERS BY CITY AND MODEL YEAR

	MODEL YR INFO				CONDITION OF RESTRICTOR		
CITY	75	76	77	78	MODIFIED	MISSING	DON'T KNOW
DETROIT	X				X		
DETROIT	X(1)						X
DETROIT	X				X		
DETROIT	X						X
DETROIT	X				X		
CHICAGO	X						X
CHICAGO				X			X
DALLAS	X						X
DALLAS			X				X
DALLAS		X					X
DALLAS		X			X		
DALLAS		X					X
DENVER		X					X
DENVER			X			X	
DENVER		X					X
SEATTLE	X				X		
SEATTLE	X						X
SEATTLE		X					X
SEATTLE			X		X		
SEATTLE	X						X
SEATTLE	X				X		
SEATTLE	X						X
NEW YORK		X				X	
NEW YORK	X				X	—	—
					8	2	14

(1) NOT VERIFIED IN TERMS OF VIN INFORMATION AS REQUIRING UNLEADED FUEL

FIGURE 1

VEHICLE VOLUME DISTRIBUTION
AT
SERVICE STATIONS

SURVEY CONDUCTED AT 24 STATIONS

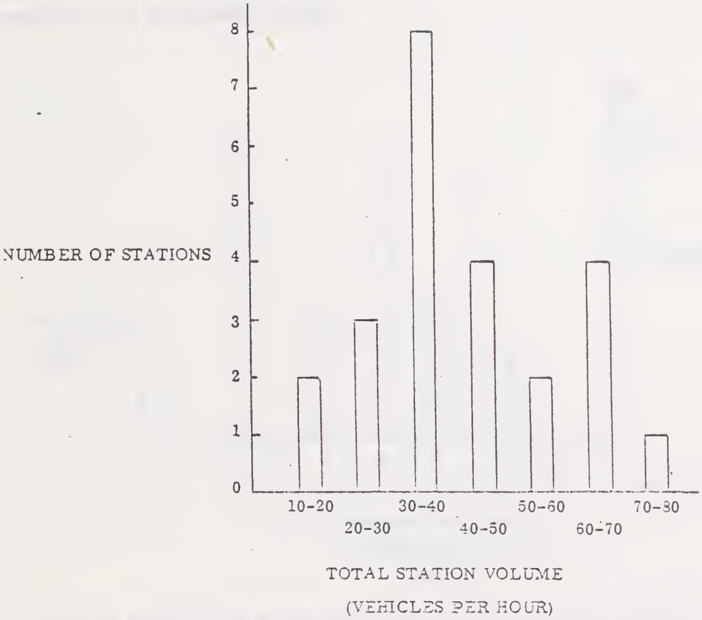
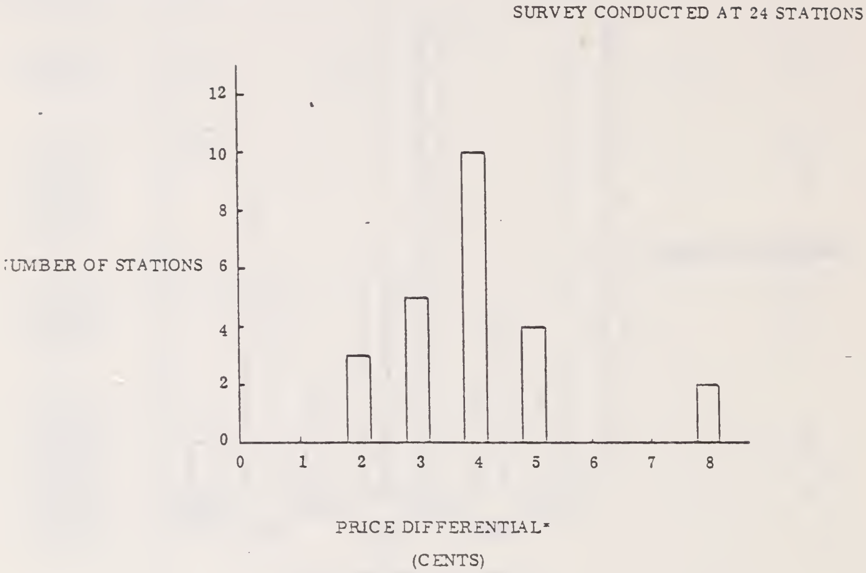


FIGURE 2

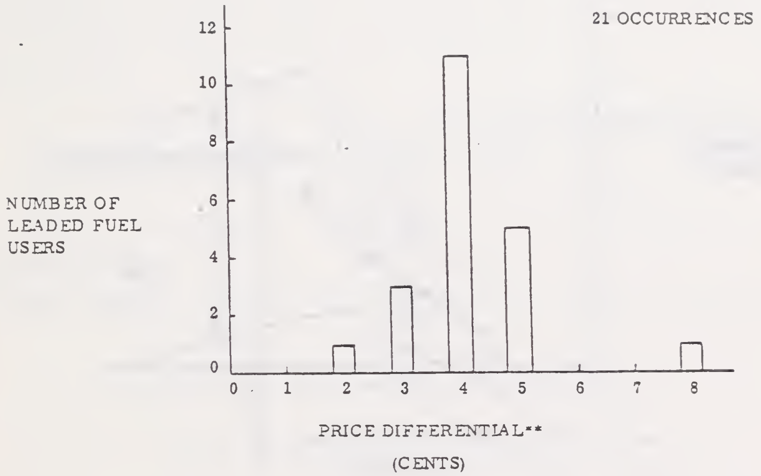
PRICE DIFFERENTIAL DISTRIBUTION
AT
SERVICE STATIONS



* = THE DIFFERENCE IN COST BETWEEN UNLEADED REGULAR AND LEADED REGULAR

FIGURE 3

PRICE ADVANTAGE REALIZED
BY
USING LEADED REGULAR* FUEL



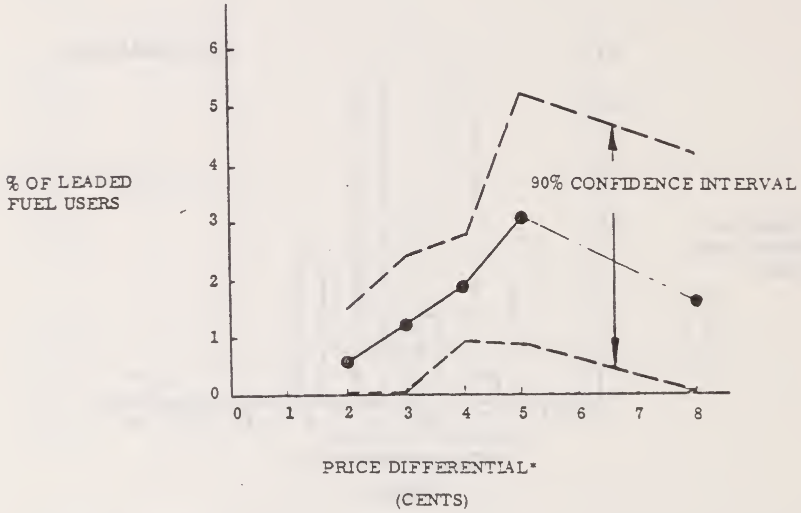
** = THE DIFFERENCE IN COST BETWEEN UNLEADED REGULAR AND LEADED REGULAR

* THREE CUSTOMERS USED LEADED PREMIUM FUEL

FIGURE 4

PERCENTAGE OF CUSTOMERS SWITCHING TO LEADED REGULAR FUEL BASED ON PRICE ADVANTAGE

PRICE DIFFERENTIAL	2¢	3¢	4¢	5¢	8¢	
TOTAL SAMPLE	167	235	582	162	62	(Total 1208)
LEADED FUEL USERS	1	3	11	5	1	(Total 21)
% LEADED FUEL USERS	.60	1.28	1.89	3.09	1.61	
90% CONFIDENCE	.0	.08	.96	.85	.0	
INTERVAL RANGE	1.58	2.48	2.82	5.33	4.24	



* = THE DIFFERENCE IN COST BETWEEN UNLEADED REGULAR AND LEADED REGULAR

BREAKDOWN OF RESULTS
LEADED FUEL USERS

○ MODEL YEAR					90% CONFIDENCE RANGE
1975	13	OF	250	5.20%	2.89% - 7.51%
1976	7	OF	343	2.04%	.78% - 3.30%
1977	3	OF	404	.74%	.04% - 1.44%
1978	1	OF	205	.49%	0% - 1.29%
	24		1202		

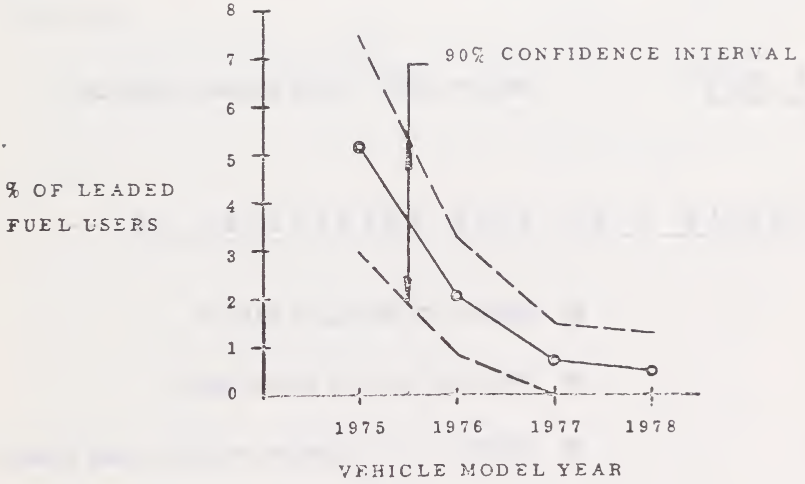
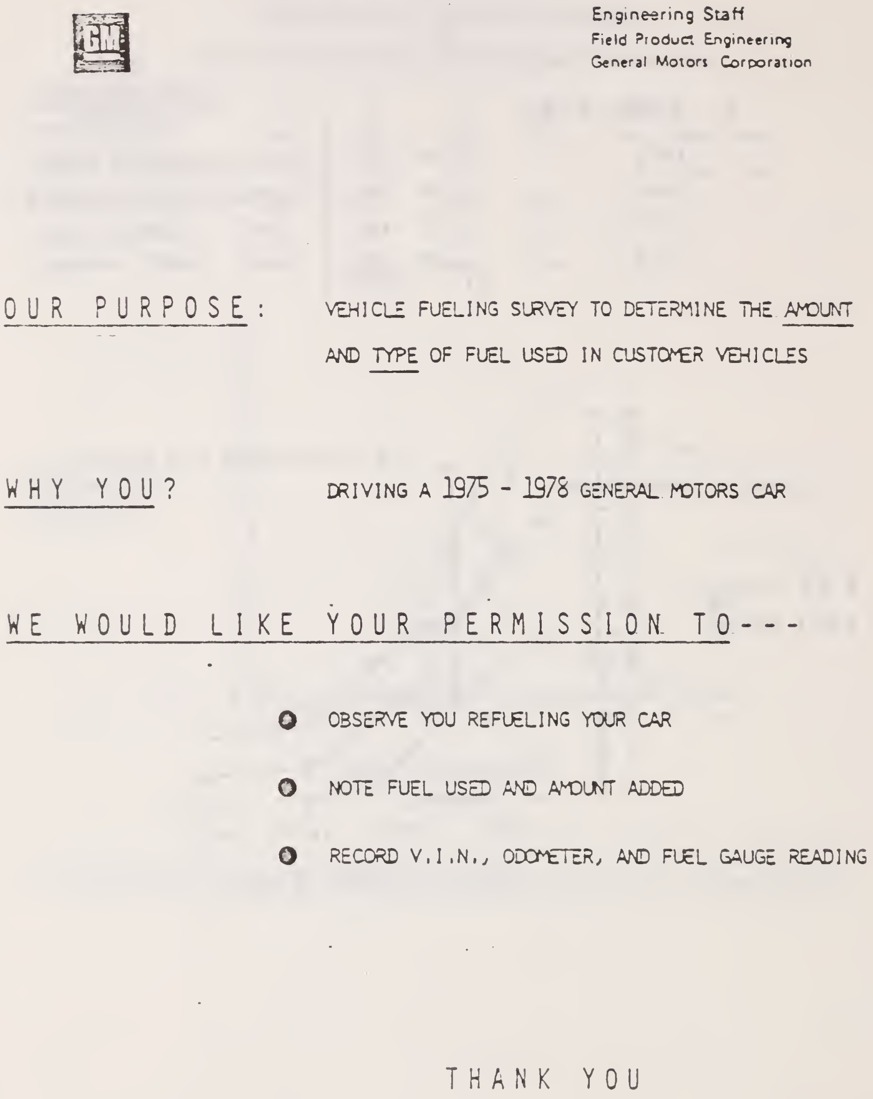


FIGURE 5

INFORMATION SHEET



Engineering Staff
Field Product Engineering
General Motors Corporation

OUR PURPOSE: VEHICLE FUELING SURVEY TO DETERMINE THE AMOUNT AND TYPE OF FUEL USED IN CUSTOMER VEHICLES

WHY YOU? DRIVING A 1975 - 1978 GENERAL MOTORS CAR

WE WOULD LIKE YOUR PERMISSION TO---

- OBSERVE YOU REFUELING YOUR CAR
- NOTE FUEL USED AND AMOUNT ADDED
- RECORD V.I.N., ODOMETER, AND FUEL GAUGE READING

THANK YOU

TABLE 4

SERVICE STATION PARTICIPATION

	NUMBER OF STATIONS	
	PERMISSION GRANTED	PERMISSION DENIED
DETROIT	5	3
CHICAGO	4	
DALLAS	4	
DENVER	4	2
SEATTLE	4	
NEW YORK	3	1
	24	6

TABLE 5

GM CUSTOMER PARTICIPATION

CITY	"YES"	"NO" WITH PARTIAL DATA	"NO" WITHOUT DATA
DETROIT	240	3*	
CHICAGO	195	5	
DALLAS	200	4	1
DENVER	188		
SEATTLE	179	1	
NEW YORK	192	1	1
	1194	14	2

*ONE CUSTOMER USED LEADED FUEL

APPENDIX 3

NINETY-FIFTH CONGRESS

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COUNSEL TO THE CHAIRMAN

BERNARD J. WUNDER
MINORITY COUNSEL

MEMORANDUM

DATE: July 11, 1978

TO: John E. Moss, Chairman

FROM: Subcommittee Staff

SUBJECT: Summary of and Comments on General Motors Study of Fuel Switching

The General Motors Corporation recently conducted a study of fueling practices by drivers of 1975 and later model catalyst equipped GM vehicles. 1208 such vehicles were observed in six urban areas: Seattle, Denver, Dallas, Chicago, Detroit, and New York City. A total of approximately 200 vehicles were observed at 4 self-service stations in each city. 24 motorists fueled with leaded gasoline, a rate of only 1.99%. Evaluated in terms of a 90% confidence level, the range is between 1.33% and 2.65%.

GM employees, with the knowledge and consent of the station owner, were present at the station, observed the driver fueling his vehicle and then attempted to interview the driver. All but 16 drivers agreed to be interviewed. It is not certain whether or not the physical presence of the GM employees, who in many instances wore name tags and stood in the area of the pumps, tended to reduce the incidence of fuel switching. It is similarly unclear whether or not the presence of the GM employees had any effect on the refusal of the 16 motorists to be interviewed. The fuel usage of 14 of the 16 who refused to be interviewed was observed. One of these 14 used leaded gasoline, but the GM personnel were not able to observe if the restrictors had been tampered with in any of these vehicles, so no firm conclusions can be drawn for this group. However, the switching rate of the 14 who refused to be interviewed was significantly higher (7.14% vs. 1.99%) than that of the population that agreed to be interviewed.

Despite the possible downward bias, the study shows some important tendencies. Figure 4, which is excerpted from the study, shows that fuel switching tended to increase as the differential between unleaded and leaded regular increased.

GM concluded that:

> "No statistically supportable (emphasis supplied) relationship was determined relating the number of leaded fuel users to fuel price differential.... [But] the relationship of Figure 4 may indicate a potential relationship of increased leaded fuel usage with price differential...."

The profile of the switching also suggests that price is by far the prime motivating factor. 21 of the 24 switchers chose leaded regular which, according to March 1978 DOE retail gasoline price data, was over 4 cents per gallon cheaper than unleaded regular on average. 3 switched to leaded premium, which on average is about 2 cents per gallon more expensive than unleaded regular and over 6 cents per gallon more expensive than leaded regular. Performance is by far the most likely explanation for this type of switch. Performance also seems to explain why 15 other drivers switched from unleaded regular to unleaded premium, which is about 4 cents per gallon more expensive than unleaded regular and about 2 cents per gallon more expensive than leaded premium.

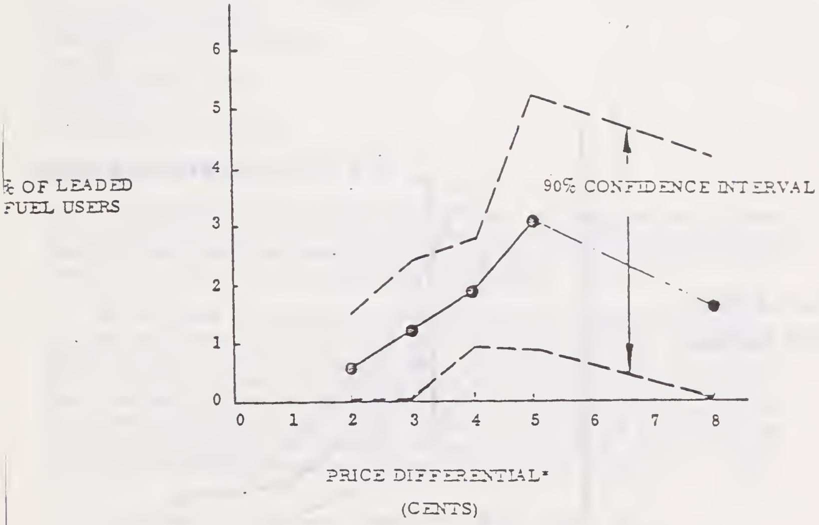
The GM data show a strong correlation between the age of the vehicle and the tendency to switch to leaded fuel. As shown in the second table attached to this memorandum, the tendency of 1975 model year car operators to switch was over five times greater than either 1977 or 1978 model year car operators. This finding suggests that the switching problem will tend to increase.

SS:m
Attachments

FIGURE 4

PERCENTAGE OF CUSTOMERS SWITCHING
TO
LEADED REGULAR FUEL BASED ON PRICE ADVANTAGE

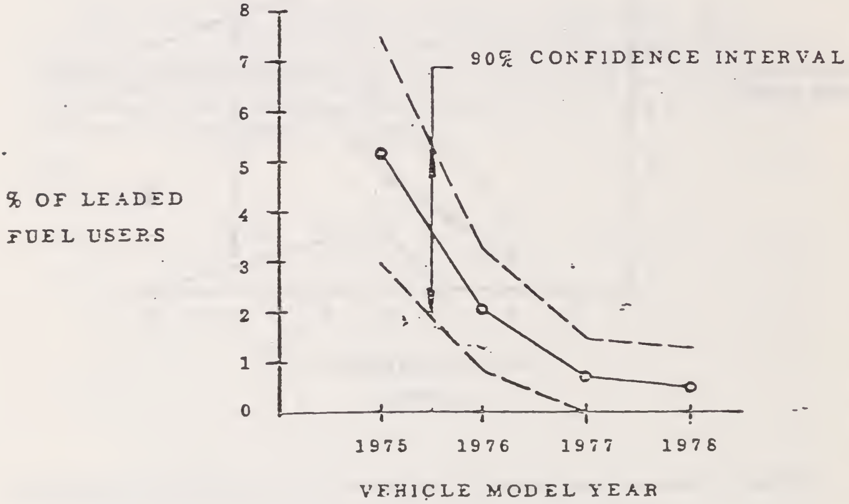
PRICE DIFFERENTIAL	2¢	3¢	4¢	5¢	8¢	
TOTAL SAMPLE	167	235	582	162	62	(Total 1208)
LEADED FUEL USERS	1	3	11	5	1	(Total 21)
% LEADED FUEL USERS	.60	1.28	1.89	3.09	1.61	
90% CONFIDENCE	.0	.08	.96	.85	.0	
INTERVAL RANGE	1.58	2.48	2.82	5.33	4.24	



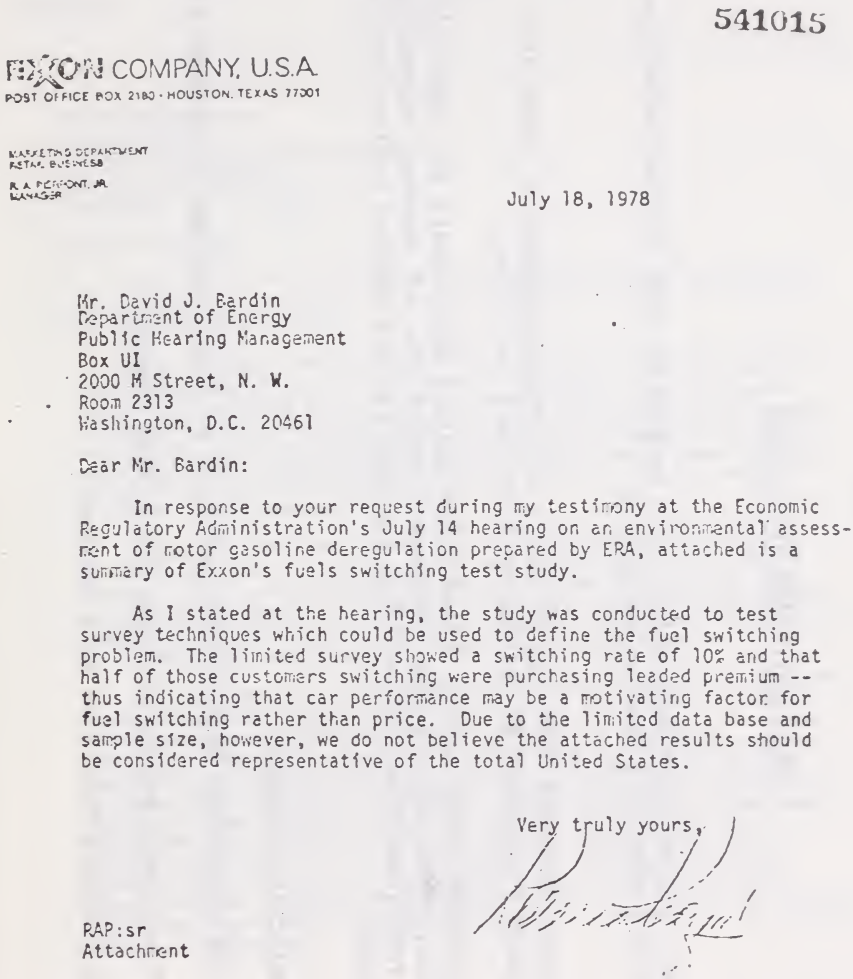
* = THE DIFFERENCE IN COST BETWEEN UNLEADED REGULAR AND LEADED REGULAR

BREAKDOWN OF RESULTS
LEADED FUEL USERS

MODEL YEAR			90% CONFIDENCE RANGE
1975	13 OF 250	5.20%	2.89% - 7.51%
1976	7 OF 343	2.04%	.78% - 3.30%
1977	3 OF 404	.74%	.04% - 1.44%
1978	1 OF 205	.49%	0% - 1.29%
	24 OF 1202		



APPENDIX 4



541015

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R. A. PIERPONT, JR.
MANAGER

July 18, 1978

Mr. David J. Bardin
Department of Energy
Public Hearing Management
Box UI
2000 M Street, N. W.
Room 2313
Washington, D.C. 20461

Dear Mr. Bardin:

In response to your request during my testimony at the Economic Regulatory Administration's July 14 hearing on an environmental assessment of motor gasoline deregulation prepared by ERA, attached is a summary of Exxon's fuels switching test study.

As I stated at the hearing, the study was conducted to test survey techniques which could be used to define the fuel switching problem. The limited survey showed a switching rate of 10% and that half of those customers switching were purchasing leaded premium -- thus indicating that car performance may be a motivating factor for fuel switching rather than price. Due to the limited data base and sample size, however, we do not believe the attached results should be considered representative of the total United States.

Very truly yours,

RAP:sr
Attachment

FUELS SWITCHING TEST STUDY

Objective: To test survey techniques which could be used to give precise definition to the fuels switching problem nationwide.

Approach: Observers recorded auto registrations and grade purchases of about 100 customers at each of 27 service stations in nine cities.

Registrations were sent to state Motor Vehicle Departments for identification of make, model and, in some instances, engine size of observed automobiles. Fuel requirements were identified for each car and matched against observed purchase.

Results: 10% switching observed

90% confidence that actual switching at these stations is between 8-12%

50% of switchers buying premium; 50% buying regular

Survey focussed mainly on self service

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APPENDIX 5

JUL 10 1978

THE ADMINISTRATOR

Mr. David J. Bardin
Administrator
Economic Regulatory Administration
Department of Energy
Washington, D. C. 20461

Dear Mr. Bardin:

Thank you for the opportunity to review the Environmental Assessment of the Exemption of Motor Gasoline from Mandatory Petroleum Allocation and Price Regulations (EA).

While we have a number of comments on the EA, I will try to confine these comments to those of major concern. As you know, EPA's primary concern is that after motor gasoline is decontrolled, the price differential between unleaded gasoline and leaded regular may increase, causing more people to use leaded gasoline in vehicles requiring unleaded (fuel switching), thus contributing to ambient levels of mobile source related pollutants. As discussed below, we do not believe the EA adequately addresses our concerns in this regard.

The EA concludes that the average price increase associated with decontrol will be on the order of one cent per gallon (EA, pp. 13, 20). However, there is no discussion or analysis of how this increase will be allocated by grade. For example, if unleaded gasoline is 1/3 of the gasoline production, a three cents increase in unleaded with no increase in leaded would yield the one cent predicted average increase.

The EA states that the average actual margin in 1977 for full serve unleaded gasoline at retail level was 9.8 cents per gallon, 0.5 cents below the average maximum allowable margin (EA, pp. 23-24). If average levels are that close to maximum, it seems evident that a substantial percentage of stations must be at maximum. It appears to us that an analysis of the numbers of stations at maximum is crucial to determining potential price increases in the full serve unleaded grade. Also, the reason why those stations below maximum are at their present price levels should be examined. In particular, it would seem important to look at the stations in areas with significant problems with mobile source related pollutants, to determine whether those factors which cause stations to be at maximum retail levels are present and the resultant effects of decontrol.

The EA states that a joint EPA/DOE study is under way to determine the extent of fuel switching and whether price is a motivating factor (EA, p. 27). While EPA has continued its study on the incidence of fuel switching, and has recently engaged a contractor to study the motivations for fuel switching, we are unaware of any efforts yet undertaken by DOE in this regard. The issue, of course, is not the precise extent of current fuel switching or how much fuel switching can be attributed to existing price differentials, but whether higher differentials induced by decontrol will exacerbate the fuel switching situation.

We are pleased that DOE has committed to collect and analyze data on differentials, assess the fuel switching situation, and to take appropriate regulatory action if, after decontrol, significant environmental impacts occur (EA, pp. 30, 35). We would be interested in a more detailed discussion of the trigger mechanism DOE is considering to institute if problems arise after decontrol, and how quickly some form of controls could be instituted.

DOE rejected as an alternative regulating the price differential between unleaded gasoline and leaded regular (EA, pp. 42-43). One reason given is that "DOE has not explored and analyzed the possible economic and environmental impacts of controlling price differentials" (EA, p. 43). That DOE has neglected to perform such an analysis underscores the weakness of the Environmental Assessment. We believe it is incumbent upon DOE to analyze the impacts of alternatives with potentially less environmental impact before rejecting such alternatives. Another reason given for rejecting this alternative is because it would require DOE to retain a monitoring system. It is difficult for us to see how DOE can maintain its commitment to undertake a data collection and analysis system (EA, p. 30) while at the same time dismissing the maintenance of a monitoring system.

Finally, DOE seems to indicate that EPA's lead phase-down program will affect the demand/supply balance, but that decontrol will not (EA, p. 19). Besides the inconsistency with other sections of the EA where it is stated that decontrol will increase supplies (EA, p. 14), we would be interested in any information indicating that our present program will cause an imbalance in supply and demand (e.g., a shortage of gasoline).

I hope these comments are useful to you. If you have any questions, please feel free to call me or Benjamin R. Jackson, Acting Deputy Assistant Administrator for Mobile Source and Noise Enforcement at (202) 755-2530.

Sincerely yours,

Douglas M. Costle

APPENDIX 6

Department of Energy
Washington, D.C. 20461

July 24, 1978

Honorable John E. Moss
Chairman, Subcommittee on
Oversight and Investigations
Committee on Interstate and
Foreign Commerce
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

At the hearing before your Subcommittee on Monday, July 17, 1978, several questions were raised, particularly by Representative Collins, regarding the proper application of the Department of Energy's price regulations to retail gasoline dealers. I agreed to supplement the record with a more complete explanation, which is the purpose of this letter.

As Mr. Collins correctly pointed out, the basic price rule applicable to retailers and other resellers of refined petroleum products is found in 10 CFR §212.93(a), which reads in part as follows:

> "A seller may not charge a price for an item subject to this subpart which exceeds the weighted average price at which the item was lawfully priced by the seller in transactions with the class of purchaser concerned on May 15, 1973, plus an amount which reflects, on a dollar-for-dollar basis, the increased product costs concerned."

In addition, 10 CFR §212.93(b)(1) allows a retailer to increase his retail prices another three cents per gallon to reflect non-product cost increases he may have incurred since May 15, 1973.

The principal issue that arose during the hearing was whether each grade of gasoline (e.g., leaded regular, unleaded regular, leaded premium, unleaded premium) is a separate "item" within the meaning of the rule, for which a separate lawful selling price is computed. A second question raised was whether a dealer has the same maximum lawful selling price applicable to all gallons sold within a particular grade, regardless of whether sold from full-service or self-service pumps, or whether, on the other hand, a dealer can charge a price in excess of the ceiling price for full-service sales of that grade, as long as the weighted average price for all sales from both full service and self service pumps does not exceed the lawful selling price for that grade of gasoline.

The proper application of 10 CFR §212.93 is as follows: A separate maximum lawful selling price for each grade of gasoline (premium or regular, leaded or unleaded) is computed. That computation is made by adding to the retailer's May 15, 1973 selling price for that same grade the amount his cost of product sold has increased since that date, plus an additional three cents per gallon to cover non-product cost increases. This is the same as saying that a retail dealer can earn today the same per-gallon gross margin on each grade of gasoline that he earned on that grade on May 15, 1973 plus an additional three cents per gallon.

If a particular grade of gasoline was not sold by a retailer on May 15, 1973, but is sold by him subsequently, he must impute to the new grade the same May 15, 1973 selling price as he charged for the grade of gasoline he sold on May 15, 1973 having the nearest octane level. See 10 CFR §212.112(b)(2). Since most retail dealers did not begin selling unleaded gasoline until after May 15, 1973, unleaded regular gasoline has for most dealers the same imputed May 15, 1973, gross margin as leaded regular gasoline.

Furthermore, under the DOE price rules, a retailer is not allowed to weight-average full-serve and self-serve prices in order to determine compliance with the regulations. Rather, the same maximum lawful selling price is applicable to sales of the same grade of gasoline from either type of pump. If a retail dealer decides to install a self-service island, he must absorb any reductions in gross margin necessary in order to price self-service gasoline below full-service. He cannot make up any reduced margin on self-serve by receiving on full service sales an amount that exceeds his May 15, 1973 margin on that grade plus the three-cent-per-gallon nonproduct cost allowance.

An example will help to explain the operation of these rules. Suppose that a retail dealer on May 15, 1973 was selling only two grades of gasoline, leaded regular and leaded premium, and was providing only full service sales (which was typical of most retail dealers on that date). The dealer's costs, prices and margins for these grades were as follows:

	May 15, 1973	
	Leaded Regular	Leaded Premium
Cost of Product Paid	17	19
Retail Sales Price	24	28
Actual Gross Margin	7	9

Subsequently, the dealer began selling unleaded regular and unleaded premium gasoline and also converted one of his islands to self-serve. Today the dealer's allowable margin, costs, prices and actual margins are as follows:

	Today			
	Leaded Regular	Unleaded Regular	Leaded Premium	Unleaded Premium
Allowable Margin	10	10	12	12
Cost of Product Paid	48	50	52	54
Full Service Sales Price	58	60	64	66
Full Service Actual Margin	10	10	12	12
Self Service Sales Price	54	58	60	62
Self Service Actual Margin	6	8	8	8

In this example, the dealer is not violating the price rules in his sales of any grade of gasoline. The dealer's May 15, 1973 margin for leaded regular gasoline was 7 cents per gallon. The rules allow a margin of 3 cents per gallon in excess of that on current sales to allow for increased non-product costs. When the dealer introduced unleaded regular, he was required to impute to it the same lawful margin as he is allowed on the grade of gasoline that he did sell on May 15, 1973 having the nearest octane rating, which was leaded regular. Thus, the dealer's current 10-cent-per-gallon margin on unleaded regular sales from his full service pumps is consistent with his allowable margin of the same amount.

By the same token, the dealer's 12-cent-per-gallon margin on full-serve, unleaded premium sales is also lawful, since he is allowed to impute to it the May 15, 1973 margin on leaded premium plus three cents per gallon, which in this case is 12 cents.

If, instead of charging 60 cents per gallon on full service unleaded, the dealer charged 62 cents, he would exceed his allowable margin on this grade by 2 cents and would be in violation of the regulations. This would be so even though he is selling unleaded gasoline from self service pumps at below the maximum allowable margin, since the rules do not allow him to weight-average the two types of service to determine compliance.

This application of the price rules has been explained to retail dealers in a pamphlet that was widely distributed to them by the Federal Energy Administration. Enclosed is a copy of the pamphlet.

Because most retail gasoline dealers did not sell unleaded grades of gasoline on May 15, 1973, they must impute their lawful selling prices from the May 15, 1973 selling prices of the nearest grade of leaded gasoline. It is for this reason that, in its analysis of the extent to which unleaded gasoline is selling at or near ceiling prices, DOE assumed that the average maximum lawful dealer margin for unleaded regular gasoline is the same as the average maximum allowable margin for leaded regular gasoline. We attempted to estimate what the latter average margin is by finding the difference between average dealer tankwagon prices and average retail prices in fifty-five selected cities throughout the United States for May 1, 1973, as reported by Platt's Oilgram. This difference was 7.3 cents per gallon, making the estimate of the current average maximum lawful margin 10.3 cents per gallon. The Platt's data unfortunately do not represent a cross section of all retail dealers (e.g., they appear to be weighted toward urban dealers), but they were the most detailed and comprehensive data available. Only average gasoline prices (weighting both regular and premium) can be derived from Bureau of Labor Statistics data for the period before October 1973. (On the basis of this BLS data, the average dealer margin for both grades combined would appear to have been 7.5 cents per gallon in May 1973).

It should also be noted that, because of the way the price rules function, it is inappropriate to attempt to compare current average margins for unleaded premium gasoline with the 10.3 cents per gallon estimated average lawful margin for leaded regular and unleaded regular gasoline. The lawful margin for unleaded premium is calculated either by reference to the dealer's May 15, 1973 margin for that product if he was selling it then (as most Amoco dealers were) or by imputing to it the May 15, 1973 margin for leaded premium. In either event, the allowable margin for unleaded premium, on both an individual dealer and nationwide average basis, may be entirely different from the allowable margin for leaded or unleaded regular. Unfortunately, DOE does not have information that will allow us to estimate the average lawful margin for either leaded premium or unleaded premium gasoline.

I hope this information will be useful to the Subcommittee. We are continuing to pull together the other materials which were requested during the hearing to supplement the record and will transmit them shortly. In the meantime, if there is any additional information we can provide, please let me know.

Sincerely,

David J. Bardin

David J. Bardin
Administrator
Economic Regulatory Administration

Enclosure

cc: Honorable James M. Collins

APPENDIX 7

Subcommittee Staff Exhibit

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BERNARD J. WUNDER
MINORITY COUNSEL

March 1978 Average Retail Nationwide Margins for Motor Gasoline

The following average, nationwide retail margins for gasoline for March 1978 are derived from the DOE's Retail Motor Fuels Service Station Survey, "Statistical Analysis Selected Data: Product Purchase Cost," and "Statistical Analysis Selected Data: Volumetric and Price Data."

	Dealer Purchase Cost	Dealer Selling Price		Average Dealer Margin	
		full serve	self serve	full serve	self serve
Unleaded regular	55.8	65.8	61.8	10.0	6.0
Leaded regular	52.9	61.6	57.0	8.7	4.1
Leaded Premium	56.9	67.9	63.9	11.0	7.0
Unleaded Premium	58.9	69.7	65.95	10.8	7.05

cents per gallon

COMMENT: The DOE data for March 1978 indicate that the average, nationwide retail margin for full service leaded premium gasoline was .7 of a cent above the national, average permitted margin of 10.3 cents. The comparable margin for unleaded premium gasoline was .5 of a cent above margin.

APPENDIX 8

Department of Energy
Washington, D.C. 20461

JUN 0 7 1978

MEMORANDUM FOR DAVID J. BARDIN
ADMINISTRATOR
ECONOMIC REGULATORY ADMINISTRATION

FROM: C. WILLIAM FISCHER
ACTING ASSISTANT ADMINISTRATOR
APPLIED ANALYSIS
ENERGY INFORMATION ADMINISTRATION

C. William Fischer

SUBJECT: UPDATE TO SEPTEMBER 1977 GASOLINE DECONTROL REPORT: EFFECT OF ALTERNATE ECONOMIC ASSUMPTIONS FOR 1980 GASOLINE SITUATION

In reference to our letter of May 22, 1978, on the above subject we have evaluated the 1980 gasoline supply capability using the DRI PESSIM0324 economic growth forecast and the gasoline consumption estimate implied by this forecast. Based on a 1977-80 average annual growth rate in real GNP of 3.5 percent (versus 4.9 percent for OPTIM0325), the 1980 PESSIM0324 gasoline demand estimate is 93 MB/D lower than the OPTIM0325 estimate and 130 MB/D lower than the CEASPIRIT estimate. Consequently, the projected shortage in the gasoline supply for 1980 is about 100 MB/D lower than the OPTIM0325 scenario forecast, which indicated a shortfall of about 500 MB/D in 1980. This, of course, assumes that the EPA lead phasedown schedule to 0.5 g/gal would be in effect in 1980 and present octane levels would be maintained.

The summary table below presents the PESSIM0324 results together with those for the OPTIM0325 and CEASPIRIT cases:

Projected 1980 Shortfalls
Annual Averages with EPA Lead Phasedown to 0.5 g/gal.
(MB/D)

	Reforming Capacity Shortfall	Gasoline Supply Shortfall at Present Octane Levels	Gasoline Supply Shortfall (Excess) with Octane Shaving*
PESSIM0324	280	400	(100)
OPTIM0325	340	500	-
CEASPIRIT	360	550	150

---

*Assumes one octane number decrease in average RON and MON for all grades.

We have concentrated this analysis on the 1980 situation, which is most critical in view of the EPA lead phasedown. We have not repeated the 1978 and 1979 analyses at 0.8 g/gal. and 1.2 g/gal. lead levels for the PESSIM0324 scenario. The PESSIM0324 gasoline demands are 31 MB/D and 75 MB/D lower in 1978 and 1979, respectively, than the OPTIM0325 estimates. The remainder of the assumptions and the conclusions (e.g., options regarding octane shaving, accelerated expansion or replacement of reforming capacity, and the EPA lead/MMT policies) that were discussed in the May 22, 1978, memo stand unchanged in the current analysis.

Table 1 (attached) presents the details of 1980 catalytic reforming capacity needed to meet the projected PESSIM0324 peak period and annual motor gasoline demands. Table 2 (attached) presents the PESSIM0324 motor gasoline demands used to calculate the reforming capacity requirements in Table 1 as well as demands for the two alternate macroeconomic scenarios.

Attachments

Table 1
Catalytic Reforming Capacity Needed To Meet Projected Peak Period And Annual Average Demands For Gasoline Based on PESSIM0324 Forecast Without COET
(Million barrels per day)

		Projected Reforming Capacity***	Necessary Reforming Capacity for Motor Gasoline	Estimated Reforming Capacity Necessary For Petrochemical Industry	Total Reforming Capacity Requirement	Excess Capacity or (Shortfall)
				Average Lead Level 0.5 g/gal*		
Peak Period**						
1980	a)	3.72	3.92	0.37	4.29	(0.58)
	b)	3.88	3.92	0.37	4.29	(0.42)
Annual Average						
1980	a)	3.72	3.63	0.37	4.00	(0.28)
				Average Lead Level 1.2 g/gal		
Peak Period**						
1980	a)	3.72	3.56	0.37	3.94	(0.22)
	b)	3.88	3.56	0.37	3.94	(0.06)
Annual Average						
1980	a)	3.72	3.27	0.37	3.65	0.07

---

* Effective rate for the 0.5 g/gal. EPA phasedown case is 0.56 g/gal. due to small refiner exceptions. No manganese is used in unleaded gasoline blending.

**Peak period defined as months of June, July, and August.

***Reforming capacity projections are from the 1978 Oil and Gas Journal refining/construction surveys. Case a) assumes 92 percent capacity utilization and the alternate Case b) assumes 96 percent capacity utilization during the peak period.

Source: Study conducted by the Energy Information Administration using comprehensive refiner: model.

Table 2

1980 Motor Gasoline Demands (MB/D)

	PESSIM0324	OPTIM0325	CEASPIRIT
Annual Average	7491	7584	7621
Peak Period*	8018	8113	8157

---

*Months of June, July, and August.

APPENDIX 9

JUN 09 1978

MEMORANDUM FOR DAVID J. BARDIN

FROM: BARTON R. HOUSE

SUBJECT: 1980 MOTOR GASOLINE SUPPLY/DEMAND

In my memorandum of June 5, 1978 (copy attached), I described a sizable disparity between EIA's and ERA's 1980 motor gasoline production projections, and indicated we were querying eight additional large refiners to improve our sample.

We now have their responses, which bring to seventeen the total number of large refiners surveyed. These seventeen represent 79.2% and 85.3%, respectively, of 1977 leaded and unleaded motor gasoline production. Applying these factors to their maximum production capability results in the following extrapolations for the total industry:

1980 Motor Gasoline Production (MB/D)

Leaded	Unleaded	Total
3,400	3,800	7,200

Adding extrapolated production to estimated imports and comparing the resultant total supply with EIA forecast demand, indicates a supply shortfall of about 100 MB/D in the leaded grade.

	Leaded	Unleaded	Total
Production	3,400	3,800	7,200
Imports	300	--	300
Total Supply	3,700	3,800	7,500
Demand	3,800	3,800	7,600
Excess/(Shortfall)	(100)	--	(100)

The extrapolation method assumes that the production of the remaining 15 to 20 percent of the industry (smaller refiners) will behave exactly as the large refiners, i.e. their unleaded production will increase and their leaded production will decrease at the same rates as the large refiners'. This approach probably overstates the smaller refiners' unleaded production and understates their leaded production. Since the total gasoline production of the small refiner segment of the industry is only about 1,300 MB/D, it is unlikely that these aberrations would exceed 100 MB/D for either grade. If such small refiners' adjustments (100 MB/D increase in leaded production and 100 MB/D decrease in unleaded production) are made, the effect would be to move the projected shortfall (100 MB/D) from leaded to unleaded gasoline.

A "worst case" (in which it is assumed that the small refiners will produce no more unleaded gasoline in 1980 than they did in 1977) would result in a shortfall of 300 MB/D of this product.

In sum, ERA's survey data indicate a shortfall of no more than 100 MB/D of unleaded in 1980, while EIA's model derived data indicate a total shortfall of 400 MB/D (300 MB/D unleaded and 100 MB/D leaded). In this connection, both assessments conservatively assume that only leaded imports will be available. In reality, at least 25 MB/D of unleaded gasoline can be made available for "import" from Puerto Rico and the Virgin Islands and, as indicated in the Supplement to the September 1977 Motor Gasoline Decontrol Report, an additional 60 MB/D of unleaded can be produced by and obtained from refiners in several European countries. Application of these 85 MB/D of unleaded imports against 1980 demand would essentially eliminate ERA's shortfall and reduce EIA's shortfall to 300 MB/D (200 unleaded and 100 leaded).

Attachment

ATTACHMENT 10.

ACTION MEMORANDUM

TO: James R. Schlesinger
Secretary

THRU: John F. O'Leary
Deputy Secretary

FROM: David J. Bardin
Administrator
Economic Regulatory Administration

SUBJECT: DOE Energy Actions Nos. 3 and 4 (Motor Gasoline Decontrol) and Special Rule No. 4

Issue

Whether you should sign the transmittal letters (Tabs A and B) and submit to each House of Congress DOE Energy Action No. 3 -- Exemption of Motor Gasoline from the Mandatory Petroleum Allocation Regulations (Tab C) -- and DOE Energy Action No. 4 -- Exemption of Motor Gasoline from the Mandatory Petroleum Price Regulations (Tab D).

Background

On August 9, 1977, the Federal Energy Administration (FEA) issued a Notice of Proposed Rulemaking to exempt motor gasoline from the allocation and price regulations and to establish a motor gasoline transitional assignment program for the year following the exemption. The FEA held hearings on these proposals in seven cities on September 6, 7, and 8,

OGC:PETROLEUM REGULATIONS:TDEPREIST:fs:6/7/78

1977, and then deferred further action until after the establishment of the Department of Energy (DOE). On October 19, 1977 you referred the proposals to the Federal Energy Regulatory Commission (FERC) under sections 402 and 404 of the Department of Energy Organization Act (Pub. L. 95-91). The FERC conducted its hearings on the motor gasoline exemption on November 29 and 30, 1977 and accepted written comments through December 5, 1977. By letter of February 3, 1978, the FERC informed you of its preliminary conclusions, and Deputy Secretary O'Leary responded to the FERC on March 7, 1978. On March 29, 1978 the FERC issued its Analysis and Recommendations and concurred without qualification in the motor gasoline decontrol proposals. At the same time, the FERC concurred in a modified version of Special Rule No. 4, which sets forth supply protection provisions for the year following effectiveness of decontrol (Tab E). This Special Rule will be issued simultaneously with the transmittal of DOE Energy Actions Nos. 3 and 4 to the Congress.

Discussion

Transmittal of DOE Energy Actions Nos. 3 and 4 to each House of Congress is the final step in exempting motor gasoline from the Mandatory Petroleum Price and Allocation Regulations. Section 551 of the Energy Policy and Conservation Act, as amended (Pub. L. 94-163), requires this Congressional review of any decontrol proposal in the form of an energy action. If neither House of Congress disapproves within the fifteen-day review period, the exemptions will become effective September 15, 1978.

Special Rule No. 4, a transitional assignment program, which will become effective only if the allocation exemption is not disapproved by the Congress, will remain in effect for the year following the exemption of gasoline and is not subject to Congressional review. The special rule requires suppliers of motor gasoline to give ninety-days notice before terminating base period supplier/purchaser relationships. It allows a marketer who has made a diligent, but unsuccessful, effort to locate new sources of supplies to apply to a DOE Regional Office to have its most recent mandatory supplier/purchaser relationship with its base period supplier continued or reestablished for up to three, three-month periods, but not beyond one year after the effective date of the exemption.

Our findings accompanying our decontrol actions conclude that there will be no significant gasoline shortages nationwide through 1979 and that market forces now and for the foreseeable future will keep gasoline prices on the average below the maximum levels that would be allowed by regulation. You should be aware, however, that if EPA continues on its current lead phase-down schedule (which will require a significant reduction in gasoline lead content in October 1979) our projections indicate that significant gasoline shortages could develop in 1980, with or without controls. In addition, our finding that gasoline prices are currently below maximum allowable levels is based on nationwide averages. If the current tight gasoline supply situation in some areas, particularly on the West Coast, continues past September 15, 1978 (which we do not anticipate) there might be some regional price increases resulting from decontrol.

Finally, in our findings and our revised environmental assessment we have concluded that decontrol will not cause significant environmental impacts. In the final rule, we have stated that within eight and fourteen months following decontrol, the DOE will issue interim and final reports concerning trends in the leaded versus unleaded price differential and fuel switching.

This environmental issue is highly controversial. The EPA has expressed concern publicly that decontrol will cause an increase in the leaded/unleaded price differential and a consequent increase in fuel switching. Some environmental organizations will likely sue us over our failure to prepare an environmental impact statement, and the Office of the General Counsel is of the view that there is some risk of this challenge being successful. The basis of our determination that an EIS is not required is -- and our principal defense in the litigation will be -- that available evidence indicates that there will be no increase in the leaded/unleaded price differential after decontrol because both leaded and unleaded prices are currently being restrained by market forces below allowable levels.

Recommendation

That you sign the transmittal letters (Tabs A and B).

Next Steps

Preparation of testimony and other evidence requested by Congress in connection with the decontrol proposals.

Issuance (after the expiration of the Congressional review period) of the Analysis Plan for Motor Gasoline.

Concurrences

OGC, Coleman Date __________ Concur ______
Nonconcur ______

Policy & Evaluation,
Alm D Date __________ Concur ______
Nonconcur ______

Attachments: Tab A - Letter to President of the Senate transmitting DOE Energy Action No. 3;
Letter to Speaker O'Neill transmitting DOE Energy Action No. 3.

Tab B - Letter to President of the Senate transmitting DOE Energy Action No. 4;
Letter to Speaker O'Neill transmitting DOE Energy Action No. 4.

Tab C - DOE Energy Action No. 3, Exemption of Motor Gasoline from the Mandatory Petroleum Allocation Regulations and Special Rule No. 4.

Tab D - DOE Energy Action No. 4, Exemption of Motor Gasoline from the Mandatory Petroleum Price Regulations.

Tab L - Special Rule No. 4, Transitional Motor Gasoline Assignment Program

Prepared by: OGC:TDePRIEST:fes:566-9565:6/6/78

APPENDIX 11

Department of Energy
Washington, D.C. 20461

JUL 26 1978

Honorable John E. Moss
Chairman, Subcommittee on
Oversight and Investigations
Committee on Interstate and
Foreign Commerce
U.S. House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

During the July 17, 1978 hearing on motor gasoline decontrol before your Subcommittee, there was inserted into the record, at the request of Dr. Galloway, what he described as a "final memorandum" from C. William Fischer, Acting Assistant Administrator of the Energy Information Administration (EIA), to David J. Bardin, Administrator of the Economic Regulatory Administration (ERA), dated June 7, 1978. That memorandum provided ERA with EIA's estimates of the projected gasoline supply/demand balance for 1980 under different scenarios and assumptions. It created considerable controversy and confusion at the hearing because it was characterized by Dr. Galloway as "projecting a gasoline shortage in 1980 greater than that which was occasioned by the Arab oil embargo." (Transcript, p. 336)

The purpose of this letter is to clarify the record on this most important subject.

Mr. Fischer's June 7 memorandum was an update of an earlier May 22, 1978 memorandum. The two memoranda read together indicated that shortages of gasoline could be expected in 1980 only if various assumed levels of economic growth were considered together with certain pessimistic assumptions regarding the availability of gasoline. Mr. Fischer's memoranda did not purport to be and were not intended to be EIA's official or final estimates of the probable 1980 supply/demand balance. They simply set forth what the results would be if the 1979 estimates were extended to 1980 under a set of assumptions chosen to simulate a "worst case." While these assumptions were clearly spelled out, the analysis did not claim that they were the likely occurences. In the intervening period, DOE has had the opportunity to examine more thoroughly some of the underlying assumptions and to take into account additional information that has recently become available. As a result, we now feel that some of the assumptions underlying EIA analysis are too unlikely even for developing a "worst case" projection. Moreover, there are actions that both industry and government could take to reduce any shortfall. In the "worst case" analysis, these actions were assumed not to occur.

Demand Growth Assumptions

In summary, the projections set forth in Mr. Fischer's memoranda were as follows:

Demand Projection Model Run	1980 Gasoline Supply Shortfall
CEASPIRIT (approx. 5.5% GNP growth)	550,000 B/D
OPTIMO325 (approx. 4.9% GNP growth)	500,000 B/D
PESSIMO324 (approx. 3.5% GNP growth)	400,000 B/D

Different economic growth scenarios were provided in order to give a range and to provide some basis for comparison with earlier projections made during the long course of DOE's gasoline decontrol proceedings. The CEASPIRIT projection had been used in the Federal Energy Administration's original findings and views of September 1977 because it represented the Council of Economic Advisors' (CEA's) then-current GNP growth goals of the Administration. Actual GNP growth has not kept pace with these goals, however, and in January 1978, in the President's Economic Report, CEA projected an annual GNP growth rate through 1980 of 4.9 percent. For this reason, in providing the supply/demand projections for DOE's May 1978 Supplement to the September 1977 findings and views, EIA had utilized the OPTIMO325 forecast, which used GNP growth assumptions approximating the CEA projections of January, 1978. At the same time, EIA ran an alternative PESSIMO324 forecast, based on a considerably slower GNP growth rate of approximately 3.5 percent. The May 1978 Supplement relied entirely on the OPTIMO325 forecast to project 1979 demand, since, as we indicated in the Supplement (pp. S-30 to S-32), we considered it a more realistic "worst case" scenario than the now outdated CEASPIRIT.

Since the publication of the May 1978 Supplement and Mr. Fischer's memorandum of June 7, 1978, CEA has again revised downward its estimates of GNP growth through 1980, as announced by Chairman Schultze in the recent midsession budget review, to 4.2 percent. Thus, on the basis of the most recent GNP projections, it would appear that lower projections of demand, somewhere between the results yielded by OPTIMO325 and PESSIMO324, might be even more realistic than those used in the May 1978 Supplement.

Supply Assumptions

On the supply side, Mr. Fischer's memoranda were careful to point out that they contained some very conservative assumptions about the regulatory burden that would be imposed on the refining industry and about that industry's ability or willingness to increase supplies. The five most important assumptions in this regard were as follows:

1. No domestic refining capacity additions, other than those already committed or announced publicly in the trade press, would be available in 1980.

2. Imports of gasoline would not exceed the 1977 level of about 200,000 B/D.

3. EPA's current target of phasing down to .5 grams per gallon (g./gal.) by October 1979 would have been met and would be in effect in 1980.

4. EPA will maintain its current schedule of phasing out the unleaded gasoline additive MMT by September 1978.

5. Octane quality would be maintained at today's levels for each grade of gasoline.

Our further analysis indicates that the first two of these assumptions are probably no longer valid and the latter are uncertain. Any revisions that would be made in them would likely be in the direction of indicating increased (or additional) gasoline supply.

Additions to Domestic Refining Capacity

Additional analysis of the refining industry by DOE within the last two months has established that more gasoline production capacity is being planned and built for 1980 than was indicated by the data available to EIA at the time of Mr. Fischer's June 7 memorandum. Contacts with industry indicate that decisions are being made regularly to expand facilities in order to meet 1980 gasoline demands. Some of these projects are major and have been formally announced through trade publications like the Oil and Gas Journal, on which EIA relied almost exclusively in its projections. Other projects are being added to the list. For example, the June 1978 issue of Hydrocarbon Processing reports a catalytic reforming capacity increase by a number of small refiners totaling 30,000 barrels per day, which has the effect of increasing gasoline supply by 45,000 B/D to 60,000 B/D. Exxon has recently announced an isomerization unit addition of 25,000 barrels per day that was also not considered by EIA in the June 7 memorandum. A number of other improvements are being made that are too small individually to be reported in the trade press but will nevertheless have a significant cumulative effect. For example, some refiners have reported to EPA, in applications for current lead phasedown waivers, that they are planning to increase their high octane petrochemical production for use in gasoline blending. Most major refiners operate petrochemical plants and have the option to divert petrochemicals (aromatics) into the gasoline pool when it is indicated by octane requirements.

In order to get a better picture of steps the industry is taking to meet supply requirements for gasoline, in June 1978 ERA completed a survey among the 17 largest refiners (which produce more than 80 percent of all domestic gasoline) regarding their gasoline production potential for 1980. While their replies did not specify individual projects to increase capacity, they do indicate that these refiners are in each case taking appropriate steps, by refining capacity increases or other means, to meet their expected gasoline demand in 1980 and maintain their respective market shares. Your staff has been provided with details of this survey.

Additional Gasoline Imports

Further analysis indicates that the assumption that our ability to import gasoline would remain limited at the 1977 level of 200,000 B/D is too pessimistic, even as a worst case. During all of 1977, imports averaged 215,000 B/D, while during April 1977, they averaged 269,000 B/D. Gasoline imports could easily exceed 300,000 B/D by 1980, since additional foreign gasoline supply should be available. As we indicated in the May 1978 Supplement (p. S-41), there currently exists in Europe the unused capacity to produce 60,000 B/D of unleaded gasoline for the U.S. market.

Waiver of Lead Phasedown Requirements

The June 7 memorandum assumed that the .5 g./gal. lead level requirement would be in effect, but it would occur only if all existing waivers from the current .8 g./gal. requirement were allowed to lapse and there were an abrupt phasedown from the current average of about 1.3 g./gal. to .5 g./gal. in October 1979. EPA has in the past granted waivers where necessary to prevent shortages of unleaded gasoline, and it will continue to have that option. EIA estimates that if lead levels were reduced by 1980 to .8 g./gal., instead of .5 g./gal., an additional 150,000 to 200,000 B/D of gasoline supply would be available.

Reintroduction of MMT

EPA at one time had intended to allow the blending of the unleaded gasoline additive MMT, which boosts octane, at the .125 g./gal. manganese content level. The Clean Air Act Amendments of 1977 prohibited concentrations of manganese in excess of .0025 g./gal. subsequent to November 30, 1977, and completely after September 15, 1978. But EPA has authority to waive the statutory requirements, and waiver requests are pending. A final EPA determination on this issue has not yet been made. The outcome will have a significant effect on gasoline supply. Even manganese concentration levels of only .03125 to .0625 g./gal. would result in an increased supply of 100,000 to 200,000 B/D in 1980.

Octane Shaving

In order to maintain current octane levels as lead is phased out of gasoline, the remaining clear pool will require increased processing (catalytic reforming, alkylation, and isomerization). This increased processing requirement has a major impact on gasoline supply, since (1) substantial volumes may be lost in processing, and (2) processing capacity may not be adequate. In the absence of other alternatives, refiners could effectively shave octane in selected pools in order to maintain adequate supply levels. We estimate that a one-point drop in the average octane level of all gasoline would increase gasoline supplies by 200,000 to 400,000 B/D.

Conclusions

In summary, Mr. Fischer's June 7 memorandum represented only a first step in attempting to arrive at a projection of the 1980 supply/demand balance and was based on an unlikely combination of circumstances. Many of the underlying assumptions either require revision in light of more recent information or represent the most pessimistic possible view of future government regulatory decisions and their impacts. Recent CEA projections of GNP growth indicate that gasoline demand may be approximately 50,000 B/D less than estimated in May

1978. More recent estimates of production and import capability add several hundred thousand barrels per day to the supply side of the equation. Octane shaving could easily make up any remaining shortfall. The fact that EPA's future regulatory decisions on waivers of lead phasedown requirements and the use of MMT could have a major impact on motor gasoline supply is further indication that gasoline shortage in 1980 is avoidable. For these reasons, we believe that any projections of a 500,000 B/D gasoline shortage in 1980 are without merit, and we regret that a very preliminary, internal DOE document might suggest that we believe otherwise.

There are, to be sure, grounds for legitimate concern that there may in future years be some problems in providing enough gasoline supplies to meet demand and at the same time to reach full achievement of the mobile source objectives of the Clean Air Act, which this Administration supports. It is clear that increasingly stringent air quality requirements will severely strain existing gasoline production capacity. In these circumstances, it seems to us counterproductive to maintaining supply and demand in balance, and detrimental to the efforts to improve air quality, to keep in place price controls that are inhibiting investments in refinery expansion and improvements that would result in the production of more clean-burning fuels.

I trust that this letter will place in proper perspective the discussion at the July 17 hearing on the gasoline supply/demand balance for 1980. If there is additional information I can provide you, please let me know.

Sincerely,

John F. O'Leary
Deputy Secretary

APPENDIX 12

NINETY-FIFTH CONGRESS

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MINORITY COUNSEL

August 1, 1978

HAND DELIVERED

Honorable John F. O'Leary
Deputy Secretary of Energy
Department of Energy
Washington, D. C. 20580

Dear Mr. O'Leary:

As the Subcommittee on Oversight and Investigations continues its review of the Department of Energy's proposal to decontrol motor gasoline, I am becoming more and more convinced that the issue is no longer just gasoline decontrol, but the competence and credibility of the Department of Energy.

Gasoline is currently in ample supply. But as you know, the Department of Energy is in possession of information that points to a potential critical gasoline shortage in 1980, greater even than the 280,000 barrel a day gasoline shortage that resulted from the 1973 Arab Oil Embargo.

In the enclosed June 6, 1978, "Action Memorandum", from David J. Bardin, Administrator, Economic Regulatory Administration, through you to Dr. Schlesinger, Mr. Bardin (in discussing gasoline decontrol) advised that

> "You should be aware, however, that if EPA continues on its current lead phase-down schedule (which will require a significant reduction in gasoline lead content in October 1979) our projections indicate that significant gasoline shortages could develop in 1980, with or without controls." (Emphasis supplied)

Since Mr. Bardin thought it appropriate to advise both you and Dr. Schlesinger of the prospect of "significant gasoline shortages" in 1980, I find it unconscionable for the Department to have withheld that chilling forecast in its June 28, 1978, Supplement on gasoline decontrol and accompanying Environmental Assessment while making much of the fact that gasoline supplies will be adequate through 1979.

For the Department of Energy to propose lifting gasoline controls in the face of a projected critical shortage of gasoline is akin to setting sail during the hurricane season because the sun is shining. To conceal the facts of this anticipated shortage is to seriously undermine the credibility of the Department of Energy and to heighten speculation that the Department of Energy's enthusiasm for gasoline decontrol, at whatever price, derives from the Department's frantic efforts of late to obtain industry support for its proposed crude oil equalization tax.

It is common knowledge that a one cent per gallon increase in the price of gasoline will cost consumers $1 billion per year. What is not generally understood, however, is that a 400,000 barrel per day shortage of gasoline in 1980, as based on DOE's own internal forecast, will increase the price of gasoline, in the absence of controls, by an estimated 20-40 cents per gallon, $20-40 billion a year, while raising the spectre of a possible national emergency.

The basis of Mr. Bardin's warning concerning a 1980 gasoline shortage was apparently a May 22, 1978 memorandum to Mr. Bardin from C. William Fischer, Acting Assistant Administrator of the DOE's Economic Regulatory Administration, which projected a 500,000 barrel per day gasoline shortage in 1980. A subsequent June 7 memorandum from Mr. Fischer (Enclosure 2) reduced that shortfall to 400,000 barrels per day.

Your attempt in your letter to me of July 26, 1978, (Enclosure 3) to explain away the Energy Information Administration's findings is hardly persuasive and underscores the need for a full scale evaluation of 1980 gasoline supplies as part of any discussion concerning the elimination of current gasoline price and allocation controls.

Whereas the details of your July 26 letter can best be addressed at a public hearing, a review of your letter gives rise to the following observations:

I. Demand Growth Assumptions

Since the Council of Economic Advisors current projected economic growth rate, as noted in your letter, is 4.2%, the 400,000 barrel a day gasoline shortage forecast by Mr. Fischer (based on a 3.5 GNP growth rate) can hardly be considered a "worst case" analysis.

II. Supply Assumptions

1. Additions to Domestic Refining Capacity

Recently announced additions to U. S. refining capacity will not have any discernible impact on 1980 gasoline supplies because of the lead time required to obtain approval and to construct such facilities. Exxon, for example, in testifying on this point at the DOE's July 14, 1978 hearing on the environmental consequences of gasoline decontrol, noted that "... you are looking three, four, five years into the future between making an investment decision and having the benefit of it being onstream." The additions to refining capacity scheduled for 1980 which you claim that the ERA was unaware of in making its 1980 projection do not appear, moreover, to significantly alter Mr. Fischer's projection. The June 1978 DOE survey of major refiners referred to in your letter (Enclosure 4) which I understand was completed prior to Mr. Bardin's warning concerning "significant gasoline shortages" in 1980, is admittedly more optimistic than Mr. Fischer's projections; but even here, the survey of refiners yielded a "worst case" shortage of 300,000 barrels per day and a "best case" shortfall of 100,000 barrels per day.

But again the issue is not whether the Energy Information Administration and Mr. Bardin are correct in projecting a potential major gasoline shortage in 1980, but rather why the DOE withheld this information in its June 28, 1978, gasoline decontrol proposal.

2. Additional Gasoline Imports

The potential availability of an additional 60,000 barrels per day of unleaded gasoline from Europe referred to in your letter results in a 340,000 barrels per day shortfall in 1980 according to the EIA forecast.

3. Waiver of Lead Phasedown Requirements

It is true, as stated in your letter, that additional supplies of gasoline will be available in 1980 were the

Environmental Protection Agency to rescind its October 1979 deadline for reducing the lead content of gasoline. But as your letter notes, this action, however regrettable from the standpoint of the public health and safety, would not in and of itself ameliorate the 1980 gasoline shortage projected by EIA.

If the Congress or the EPA is going to be required to postpone implementation of the October 1979 deadline to reduce the lead content of gasoline, it was clearly incumbent for DOE to have alerted the Congress and the EPA to that possibility prior to the Subcommittee's discovery of and release of the EIA's 1980 gasoline supply forecast.

4. MMT

As noted in your letter, the EPA has authority to permit the reintroduction of the additive MMT to boost gasoline octane, an action which could increase gasoline supplies. In testimony before the Federal Energy Regulatory Commission last November the EPA indicated, however, that there was little likelihood that it would lift the ban on MMT because of the effects of MMT on the ability of new cars to meet emission standards.

5. Octane Shaving

You are, of course, correct in noting that a one-octane reduction in the octane level of gasoline will increase gasoline supplies by a significant amount.

What your letter fails to state, however, as acknowledged by Mr. Bardin in his July 17 appearance before the Subcommittee, is that refiners are currently increasing the octane level of gasoline to meet new car requirements. A suggestion therefore that we can reduce the octane level of gasoline in 1980 is patently naive and ill-informed.

By way of conclusion, I would like to emphasize that neither the Subcommittee nor I are claiming a critical gasoline shortage for 1980. Rather, my point is that the Energy Information Administration, which under the DOE Organization Act is charged with the collection, analysis, and dissemination of energy information, has forecast a major gasoline shortage for 1980, that Mr. Bardin has apparently concurred with this assessment, and that for some reason a decision was made to withhold this information from the Department's June 28, 1978, proposal to decontrol gasoline.

I dare say, Mr. O'Leary, that such behavior does little to enhance the credibility of the Department of Energy.

Sincerely,

John E. Moss
Chairman
Subcommittee on
Oversight and Investigations

JEM:jge

Enclosures

UNIVERSITY OF FLORIDA
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